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Portable lamps—the home-fires of the electrical age—are vitalized ornaments whose existence is further justified by usefulness. Through the power and charm of light they do much toward making a house a home.

PORTABLE LAMPS

THEIR DESIGN AND USE

BY

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PREFACE

The portable lamp is rapidly growing in popularity as a means of lighting the home and its increasing use is supported by many sound arguments. Nearly every lighting problem in the home can be successfully solved by means of properly designed portables. The lighting effects obtainable can be varied considerably by altering the form of the shade and the equipment concealed within it. Furthermore, portable lamps can satisfy any artistic requirements as well as perform the various purely utilitarian functions. By means of portable lamps artificial light is permitted to assume its important place in a decorative scheme. Many families live in rented apartments and portable lamps permit them to enjoy their own taste in lighting. The householder can weave individuality into lighting by spending time and money

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in developing portable lamps which will follow him to his next residence. The mobility of portable lamps also makes this kind of lighting the most flexible for the arrangement of furniture is not fixed by so-called lighting fixtures. Finally, portable lamps make it possible to vary the lighting to suit the mood or the occasion. In fact they have much to commend them in helping to make a house a home and it is the hope that this little volume will aid the householder and others in designing, in purchasing, and in using them.

M. LUCKIESH.

November 23, 1923.

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CHAPTER I

PORTABLE LAMPS

No phase of modern lighting in the home has greater possibilities than the portable lamp. When one is dissatisfied with the lighting in any particular place wise consideration given to the portable lamp will usually solve the problem. But it is not "wise" consideration if a portable lamp is assumed to be simply a shade on a pedestal. A satisfactory portable in general does not consist merely of a beautiful shade on a beautiful pedestal, notwithstanding the general belief.

Good results in lighting are due merely to proper attention to simple details. A satisfactory portable is the result of such details as the height of the pedestal, diameter, depth, form

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and density of the shade, the location of the light-sources, and of various other factors. Finally the proportions, materials, finish, or, in other words, the artistic appearance is important. Thus we might say that in general a satisfactory portable is one in which a scientific design is clothed by an artistic one. Too many portables lack the scientific framework.

The portable lamp in its highest development is a product of the electrical age, for the electric lamp has opened possibilities which were denied the open flame. Of course, we have had portable lamps throughout the ages, for not until the advent of gas-lighting slightly more than a century ago, did our lighting devices to a large degree become "fixed." Thus there arose that unsatisfactory term "lighting fixture."

So-called fixtures were used to some extent in the more elaborate interiors in remote centuries but they were merely suspensions for oil-lamps or candles. These suspensions varied in artistic design with the fortunes of nations until in the glittering age of Louis XIV, concentrated artistic skill wrought fixtures of marvellous

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splendor. Throughout the Renaissance wonderful chandeliers, sconces and lanterns were born. Later creative Englishmen such as Sheraton, Chippendale and the Adam brothers bequeathed to posterity fine examples of handicraft designed for candles and the more modern oil-lamps. Then the United States was born and the Colonial period borrowed from those gems of craftsmanship which existed in the old world. All these and more are still inspirations for the artist of today who unfortunately is handicapped by living in the midst of haste, when it is easier or perhaps more necessary to borrow from the past than to develop styles characteristic of this electrical age.

Perhaps the foregoing statement is somewhat unjust for lighting fixtures are being adapted to some extent to the present-day light-sources. But there are many fixtures designed at present which are copies of the gems of the past with a mere substitution of electric lamps for the candles for which the originals were designed. The result is often a beautiful fixture when unlighted but when lighted the glare of brilliant

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modern light-sources warns us that art must adapt itself to the light-sources of the period or the result may no longer be art.

Today light-sources are so brilliant that they must be shaded or their light must be diffused. Furthermore electricity is conducted in flexible wires and gas in flexible tubes so that we are not confined to the use of so-called fixtures. It is true that our "portable" lamps of today, with the exception of our kerosene lamps, are not as portable as the candle of bygone years. Incidentally we must look upon the candle as a wonderful light-source and pay our respects to that unknown individual who devised it before the Christian era. It is a complete lighting plant. Its fuel is solid and easily portable, hence it is carried beyond the outposts of civilization. When we light the wick the flame melts the hard fuel and this liquid is in turn vaporized. The result is that the flame is a gas jet, portable in the most extreme sense. There is no easier way of turning back the years than by means of the mellow yellow light of the gently flickering candle. How restful in this age of haste are

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those charming moments of leisurely antiquity which the candle-flame brings to us. But if we are wise we can at least enjoy the warmth of tint of candle-light by using "flame-tinted" electric lamps available for the purpose or to a lesser extent by carefully choosing colored fabrics for lamp shades.

In the earlier years of modern lighting, light was expensive and naturally it was used largely, and in most cases only, as a utility. Those years did not witness a wide use of decorative portables. But artificial light now costs only one-fiftieth as much as it did a century ago and the last score of years has witnessed a reduction in the cost of electric light of eighty per cent. Therefore if we could afford electric light as a pure utility even twenty years ago we can now afford to enjoy some of its greater possibilities as an artistic medium. The latter includes a generous use of portable lamps for the variety of lighting effects possible.

It is easily shown that artificial light possesses great potentiality in making a house a home but this broader phase has been dealt with

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elsewhere.* It is beyond the scope of this little volume to discuss in detail, light as an artistic or expressive medium. This phase will be touched upon only incidentally here and there. It will be assumed that the reader recognizes in modern artificial light a wonderful medium full of latent possibilities. If he does not, much of the present little volume will pass by unheeded. If he does not share the author's enthusiasm perhaps he will read the volumes referred to.

During the early decades of modern artificial lighting, a few meager utilitarian fixtures and a purely utilitarian portable or two represented the lighting equipment of most of our better homes. However as the cost of light decreased we began to use more of it and now that it costs only about as much as our cream for breakfast some of us are beginning to tap its potentiality. But even now the possibilities of artificial light are barely recognized and little utilized in most of our homes. Perhaps the awakening of the

* "Lighting the Home," 1920, M. Luckiesh. "Artificial Light—Its Influence Upon Civilization," 1920, M. Luckiesh.

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householder is represented best by the growing use of portable lamps. To one who has devoted many years to the study and development of artificial lighting, the tendency toward the use of portables is heralded as the dawn of enlightenment, for the portable lamp has great possibilities throughout the home with the exception of such work-places as the kitchen and basement. But there are many misuses of portables; there are many poorly designed; there are many features not yet taken advantage of in their construction; and the householder in general, is unacquainted with many details of lighting which aid greatly in making a house a home. Hence, this little volume which aims to show the principles of construction and the applications of the portable lamp throughout the home.

Those who become acquainted with the various possibilities of portable lamps will find their application fully as fascinating as furnishing and decorating a house and even more so, for one in whom the creative spirit is restless for opportunities of expression will find endless pleasure in planning portables and uses for

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them. Herein lies a simple means of introducing variety into the expression of interiors not only by means of the individual note of light and color which each lamp provides but by the combination of several of these and by the lighting effect upon the interior itself. Furthermore, many lighting problems of a more utilitarian nature are readily solved by means of the portable lamp.

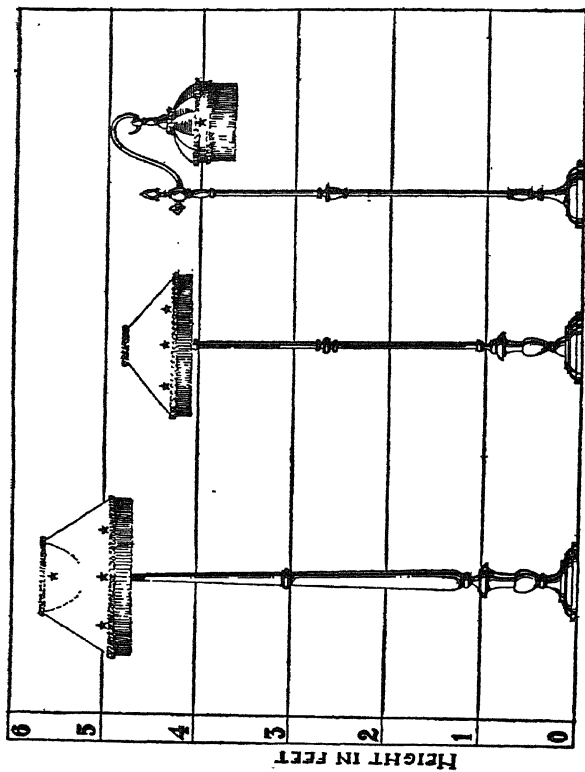
The discussion of light as a decorative medium has been presented extensively elsewhere, so it will suffice to remind the reader that light should be viewed as a medium which models form, colors objects, and by its distribution upon the floor, walls, and ceiling, it accentuates and even creates the mood or expression of a room. Of course, attention is given to the appearance of the portable itself, not only as an artistic object, but as a note of light and of color, but the lighting effect upon the surroundings is usually more important excepting in those cases where the portable is purely an ornamental note.

Variety is much sought after throughout the

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home from diet to furnishings and even to recreation. Artificial light is wonderful in this respect, for by the pressure of a switch the lighting effect and consequently the expression of the room can be altered. Fixtures can be designed to give more than one distribution of light. Even the color effects can be varied. The portable lamp if designed for such purposes can provide the same variety. Here we begin to enjoy the mobility of lighting effect—a mobility unapproached by furnishings and decorations. But portable lamps may provide not only the mobile lighting effects which well-designed fixtures may supply but they themselves are mobile. Thus they make possible another degree of mobility and hence of variety in effect.

Almost every lighting problem in the home can be solved by means of portable lamps (see Fig. 1), although in making this statement of possibilities the author does not wish to be understood as recommending that the use of so-called fixtures be abandoned. However there are many advantages in using portables. Those who rent apartments or houses are quite gen-



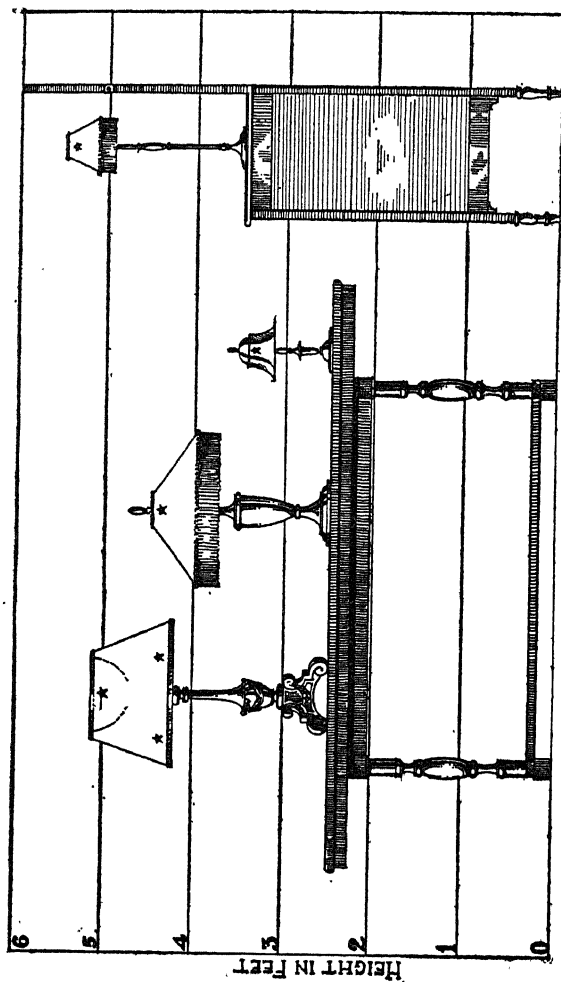


Fig. 1. A variety of portables for many purposes. (The positions of the lamp filaments are shown by the stars.)

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erally dependent upon the taste of someone else in the matter of lighting fixtures. Usually that "someone" is a landlord, builder, or electrical contractor who knows little about lighting or has little personal interest in the apartment or house as a real home. At best his taste does not necessarily coincide with that of the householder who is the occupant. Furthermore the lighting fixtures generally found in apartments and homes for rent do not possess the facilities of design to provide such desirable factors as eye-comfort and variety in lighting effects.

The householder is reluctant to go to the trouble of installing fixtures which he believes are more suitable, for this requires a mechanic and he is equally hesitant toward making the expenditure for new fixtures because his ownership may be questioned after they are installed if the building belongs to someone else. Some day fixture-plugs will be in general use so that a "fixture can be hung like a picture"; that is, so that a fixture may be fastened to the ceiling or wall as easily as the portable is now con-

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nected to the convenience-outlet in the base-board or elsewhere.

— Confronted by these drawbacks the householder finds it easy to assure himself that he is only renting temporarily, that he may build a house soon, or that he may move eventually into a more desirable apartment. Furthermore lighting fixtures are often rightly considered as “necessary evils.” In other words, a fixture hung from the ceiling is often suffered to exist even though it may detract rather than add to the pleasing appearance of the room as a whole. This is true in many cases even though the fixture is appropriate in design, for some interiors appear better if there is no fixture hanging from the ceiling to interrupt the expanse. On the other hand, there are cases where a ceiling or wall fixture of proper design is the best solution of the particular problem. However, a portable lamp can usually be made to serve the utilitarian needs if the portable is preferred and there is no question as to its being able to meet the artistic or ornamental requirements. Again

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the author wishes to state that these statements do not aim to recommend the general disuse of so-called fixtures. This will be left to the taste and the desire of the householder. This little volume merely aims to point out the possibilities of portables. Finally in view of the foregoing it is obvious that portable lamps present the best way out in many cases for by means of them the householder may so easily introduce individual taste and personality into lighting. There are also additional incentives toward the investment of thought, effort and money into portable lamps. They can be rearranged in accord with furnishings and activities and they are even more mobile for they can accompany the householder when he moves into another apartment or into his new house.

Portable lamps can be classified according to their distribution of light. Most portables are what may be termed "direct-lighting" units; that is, in these the shade prevents most of the light from going upward and permits much of the light to escape generally downward. There is another class of portables with which the pub-

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lic is less familiar. It includes those portables which permit much of the light to escape upward as well as downward. The simplest of these possesses a shade with an open top. Others of this class are equipped with a reflector to send a great deal of light generally upward. The reflector may permit some light to escape downward or auxiliary light-sources may be available to furnish the direct component. Portables or fixtures which permit most of the light to escape upward may be termed "indirect-lighting" units because the light thus reaches the useful places indirectly by reflection from the ceiling. Those units which emit light both upward and downward may be called "direct-indirect." If we carried out the terminology applied to fixtures we would use the term "semi-indirect" for these latter ones. A still further class might be formed of the smaller purely decorative portables; that is, those which exist solely as ornaments, although even these emit some light which is more or less useful in illuminating the surroundings.

Again we may separate portables into three

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classes, namely, floor-lamps, table-lamps, and ornamental novelties. But even these vary so widely in height and dimensions that the classification is at best only general.

Of course, in planning or in studying portable lamps we may prefer to classify them into utilitarian and ornamental. For example, a lamp to be used for reading or for the writing desk must be designed satisfactorily to perform its purely utilitarian purpose. Then comes the question of artistic aspect. In this case the artistic is limited by the utilitarian needs. In the case of the ornamental lamp there are no limitations to the artistic except the ability of the designer. Here we must pause a moment to insert a comment which safety dictates. When we use the term "utilitarian" we have in mind its narrower meaning. We do not infer that the beautiful or artistic is not useful for we have long recognized the utility of beauty. Let us make our lamps beautiful by all means for then they are the more useful. And furthermore, if a lamp fails through ill-design to fulfill its utilitarian purpose it is not beautiful in the broadest

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sense, notwithstanding its grace of line and its proportions. But this must suffice, for the scope of this little volume does not permit an excursion into the philosophy of the beautiful.

No matter how much we desire portable lamps or how desirable they would be in filling certain needs, our wishes for them are largely in vain if we do not have convenience-outlets in the base-boards, walls, floor or furniture. Of course, we can connect a portable to a ceiling or wall-fixture but this often requires disfiguring the fixture by removing a shade and usually necessitates enduring the inconvenience and unsightliness of a dangling cord. Notwithstanding the great possibilities of electric lighting and of appliances, it is astonishing that on the average only about one convenience-outlet is to be found in our residences. Most of us are familiar with that single base-board outlet in the modest apartment which exists in pitiful loneliness underneath the front window in the living-room. To it we must attach all our portables and appliances by running the wires in a maze along the base-board and even over doorways.

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Recently there has been an awakening to the need of many more convenience-outlets and now we find modern electrical homes of moderate size equipped with twenty to forty convenience-outlets. Certainly no room in our home should be without at least one such outlet and it is easy to justify several in some rooms. It is unfortunate that we do not more generally appreciate the advantage of building our houses and apartments around furniture. In designing a house for ourselves we cannot do better than to lay out the furniture on our drawing paper and then locate the windows, doors, etc. By compromising here and there we finally harmonize these elements. We are now in a position to lay out the wiring, for this cannot be done wisely and well until the locations of various major articles of furniture, of wall-spaces, of windows and of doors are determined. If an adequate number of outlets is allowed, we will find a generous flexibility in the arrangement of furniture still available. Modern adequate wiring of a middle-class house is shown in Figs.

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2, 3 and 4. Note the number of convenience-outlets now approved by lighting experts.

It is not the intention at this point to discuss various rooms in detail, for this will be done in a later chapter. However, we wish to emphasize that generous wiring will prove a blessing throughout the coming years just as an inadequate number of outlets will be a blight which we must endure at great cost in inconvenience and dissatisfaction. If we will seriously consider the value and possibilities of electricity in relation to other factors in a residence we cannot with fairness provide for less than an adequate wiring when cost and satisfactoriness are closely studied. This kind of serious comparison results in the installation of four, six, and even a dozen convenience-outlets in the living-room where in previous years through lack of appreciation of the possibilities of electricity only one outlet was provided and in many old residences none.

When providing convenience-outlets it is well to insist upon the latest which has been standardized by a large group of the more important

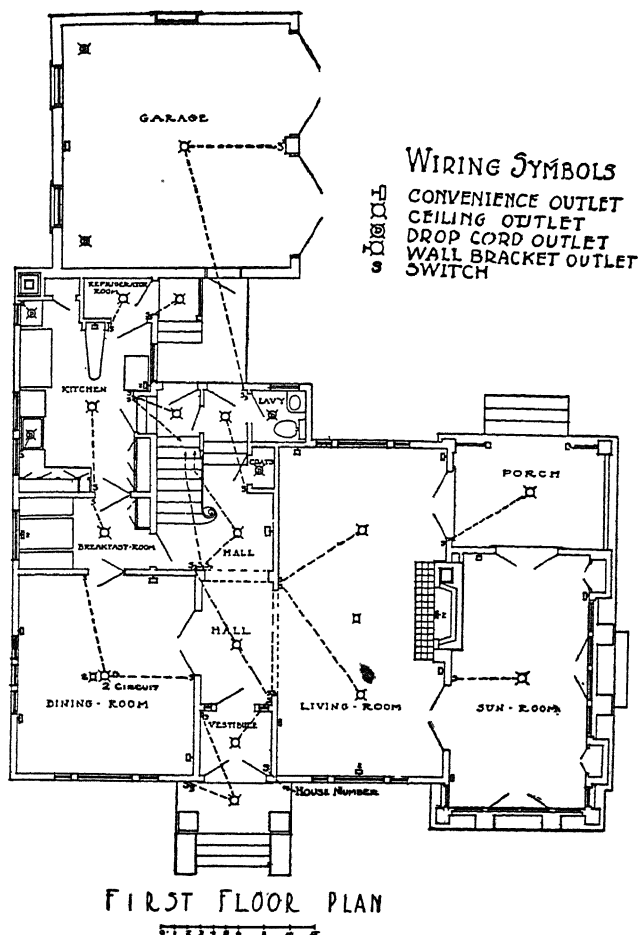
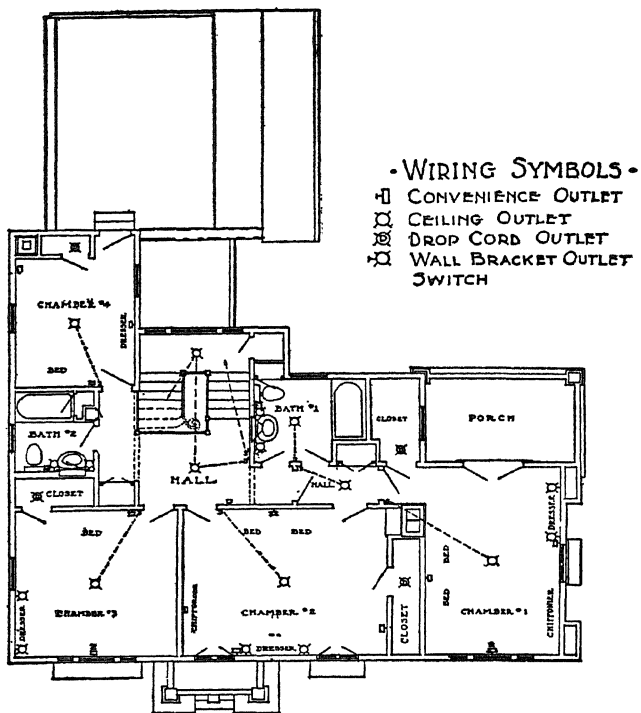


Fig. 3. Adequate wiring properly providing for many portables.



SECOND FLOOR - PLAN

Fig. 4. Adequate wiring of second floor.

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manufacturers of electrical supplies. This standard takes the plug which consists of two brass blades or prongs. Then another marvel which is not generally known is the duplex or twin convenience-outlet of the same type. In using this, two separate plugs may be connected instead of one and this doubling of the number of portables which can be connected is brought about without an increase in wiring. In short, it is well to use the duplex or double convenience-outlet in many cases instead of the single one of the past and to insist upon the standardized outlet.

The foregoing is all very well if one is building a new house but if one now owns or rents a residence in which the wiring is inadequate he is not absolutely without hope. If one owns a house no great difficulty will be encountered in installing convenience-outlets in the floor, walls, and base-boards of the first floor at least. Incidentally, very serious consideration should be given to the matter of outlets in the floor. Where the outlets in the base-boards will serve the purpose the floor outlet should be avoided.

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In the dining-room an outlet under the table is satisfactory because we know the table is always to stand in a certain location. The matter of cutting a hole or ripping a seam in the floor-covering is a responsibility which the author does not accept but it is usually better to do this than to be bothered everlastingly by wires from the table to the wall or base-board. In general, it is a very easy matter to install convenience-outlets in houses already built. If they are of wood construction or if a wall-space is available in any kind of construction, no difficulty will be experienced in providing convenience-outlets. This is another powerful argument for the consideration of portable lamps as a means of lighting.

If one rents an apartment we advise first that diplomatic exchanges be instituted with the landlord. If no good results, next see what might be done with wire run along the wood-work from the outlets which by good fortune may be available. Usually persistence will bring about at least an improvement. If after all one does not succeed in obtaining an ade-

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quate supply of outlets, move! We who live in this age are entitled to its advantages along with the disadvantages. We should not be denied the joy of modern lighting.

In connection with the portable lamp there is always the matter of the connecting wire. Some objections can be raised in regard to tripping over the wire and to tipping over the lamp but the author is writing this with ten portable lamps in view and there seems to be a remote possibility of anyone becoming entangled with the connecting wires. Certainly there has been no instance in the past of a difficulty of this kind in this particular room. Such objections disappear when serious consideration is given to the location of the outlets with respect to furniture and to the lamps. The connecting wires in all cases are behind furniture or arranged otherwise to be out of the way.

This brings to mind another expedient which is bound to grow in popularity. Furniture can be wired so that any difficulty with connecting wires for portables can be overcome. The dining-room table can be wired so that the table can

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be plugged into the floor-outlet underneath. The plugs for small portables and appliances can be inserted in outlets provided underneath the table-top at a convenient location. The buffet can be similarly provided with wiring for small portables and appliances. The library table can be wired in a similar manner if desired. The piano can be provided with wiring so that it is a simple matter to connect a lamp over the music-rack or a small portable on each side. Even the davenport can be wired and provided with outlets for the insertion of the plugs of the portables on either side. The dresser and dressing-table in the boudoir can be similarly wired for the use of portables, detachable brackets, and electric appliances. Even beds have been wired for easy connection of a reading-lamp on the head of the bed. Wires can be concealed without difficulty in or on the back of many articles of furniture. One may be surprised at his own ingenuity in this direction if he will give serious consideration to the specific problems.

Sometimes an outlet can be added to a fixture

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without disfiguring it. In the small living-room or study where there is a central fixture and no convenience-outlet this is a ready solution. Of course, it is necessary to have an article of furniture such as a table underneath the fixture if a table-lamp is to be connected and we must endure the dangling cord. But the latter is a minor discomfort in many cases compared with that of the absence of a portable. In the dining-room a neat outlet added to the fixture over the table offers an excellent solution when no floor-outlet is available. A silk cord may run downward from this outlet in the fixture to a multiple outlet on the table. To the latter, individual small portables and appliances can be connected. The accessories such as the multiple outlet and plugs can be obtained in small inconspicuous designs which are quite acceptable for this purpose. It is not difficult to provide a wall-bracket with an extra socket extending downward or even a plug receptacle in the metal portion against the wall. In dire emergency one may connect a socket to the wiring concealed behind the metal canopy on the wall.

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Finally, let us repeat that the design, the making and the application of the portable lamp are fascinating and fruitful enterprises. So many opportunities for ingenuity are offered that it is an interesting hobby. So many things can be made into portable lamps and so many improvements in lighting may be made by them that the householder will be well repaid for effort in this direction. Genius directed into lighting the residence will yield wonders toward making a house a home.

The foregoing paragraphs have dealt with electric lighting rather than with lighting by means of open flames. This has been intentional and will be continued throughout the remaining chapters. It cannot be denied that the possibilities of electric lighting are greater than those of gas, kerosene and candles. Gas-lighting has struggled valiantly to keep the pace set by modern electric lighting and it has achieved wonders considering the handicaps imposed by the open flame. Much of the discussion in this and in other chapters applies equally well to all kinds of lighting but it will be left to the reader

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to apply the principles to other kinds of lighting. Certainly if one is so situated as to be required to use gas or kerosene lamps he can apply many of the principles found in these chapters. In order to avoid undue repetition it is thought best to limit the discussion to electric lighting in those phases where the question arises at all.

CHAPTER II

PRINCIPLES OF DESIGN

A SURVEY of the portable lamps in existence indicates very definitely that, in general, the appearance or artistic aspect is given most attention. In fact, in a decided majority the artistic features receive the entire consideration. It is true that the artistic exterior in most cases is of final importance because this is what is seen. The portable must have proper proportions, pleasing lines, and a harmonizing color. But after all most portables are expected to perform a useful purpose at times at least. In any case no harm can be done in giving careful consideration to what might be termed the scientific aspect although it is hoped that this term will not be viewed by the reader with awe. The scientific aspect is not at all complicated; in fact, the reader may be surprised at the simplicity of the details which make a portable useful.

PRINCIPLES OF DESIGN

There is also a great relief for those who are overwhelmed by the importance of the artistic aspect in the fact that all the results of mundane utilitarian consideration can be finally clothed in the much desired satisfactory artistic exterior.

In the case of the purely ornamental portable we have little to say. We have our own tastes and we like what we think are beautiful things. Taste or artistic appreciation is so individualistic and founded upon so many influences that it cannot be wholly transmitted from one person to another. There are certain fundamental principles of form and color that have been established and enunciated by master artists. They have been presented in stereotyped form by hundreds and even thousands of lesser artists since they were first brought to light. But as a rule a treatise on interior decoration or on any other artistic craft embodies little more than these few fundamental rules and the writer's individual taste. The author does not propose to add herewith another treatise on artistic furnishing of the home for it is his be-

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lief that the householder must acquire taste largely by observation and study of good examples. Starting with a few fundamentals anyone can go far in artistic appreciation and achievement if he attains to an ever-awake ability to observe, to analyze, and to experiment. To say that an artist is born perhaps presents a truth but a misleading one, for artistic appreciation and ability can be developed to a considerable degree.

Unfortunately many persons appear to believe that an object in order to be artistic must be startling, novel, gaudy, embellished, or unusual. Certainly a safe rule for the uninitiated is quite the reverse. There is always safety in simplicity. A noisy person is conspicuous everywhere but a quiet one can pass in any crowd. A highly ornamental object can get along safely in a certain environment but a simpler design is in keeping with most of the settings in our homes. So when in doubt lean toward simplicity and plainness. Visualize the period styles and wisely choose the more simple for the home for they are more restful and cer-

PRINCIPLES OF DESIGN

tainly a home should strive to be a haven of comfort and rest.

Incongruity in combinations of the parts which make up a portable lamp is another pitfall too commonly encountered. Just how far we can go in this direction is a question. Certainly the use of vases for pedestals has been approved by the best tastes, provided the shade is of a material, a design and a color suitable to the vase. If the vase is modern the shade should be but if it is actually from out of the past or even a good imitation, the shade should harken back to the same period. Certain carved objects are approved as lamp pedestals but here again in providing the shade, the period and the race, besides other factors in common with any portable, must be taken into consideration. But how far can we go? Objects carved in jade by the far eastern races are approved pedestals, for such portables can be purchased at a cost of thousands of dollars. Surely this is approval!

Presumably any object could be used as a lamp pedestal if the shade is appropriate and

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the environment approved of the combination. Possibly a champagne bottle might be admissible for such a purpose if the setting were properly chosen. Antiquity removes some of the handicaps and apparently lessens the incongruity for many antiques appear suitable as lamp pedestals. Seriously, it appears wise to avoid the use of some objects in this respect, such as shrapnel shells and certain bits of statuary. Placing an electric filament lamp in the wick-hole of a Roman oil lamp is likely to prove a failure because the span of two thousand years is too great. If we can devise effective modulation, objects many centuries apart may be wedded without much worry over compatibility.

To go far into the artistic aspects of color is also out of the question in this brief treatise. We should remember that there are two fundamental color harmonies, those of contrast and those of similarity. A lamp shade may be yellow for a blue pedestal or it may be blue. The former is a harmony of contrast in which the hues are approximately complementary. The other is a harmony of similarity in which the

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two blues are close in hue but may be quite different as to shade or value. There are infinite variations between these two fundamentals for there are numberless hues, tints, and shades. As one acquires skill and taste he may venture further and further from these two safe havens. For those in doubt the safe rule is to subdue the color; use tints and shades and if any doubt still exists lean toward shades; gray the colors. Only a trained color-sense can use pure colors with safety. In this phase as in others of the artistic aspect, one will succeed only by accident if he lacks imagination or the ability to visualize vividly and accurately. One should not be afraid of color but certainly it is necessary to be cautious.

Perhaps it may aid to describe some of the colors and their complementaries. A few pairs of complementaries are red and bluish green; orange and greenish blue; yellow and blue; greenish yellow and violet; purple and green. Great confusion arises in inaccuracy in color-names. Artists often speak of some purples, such as the bluish purples, as violet. If we are

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to base our names for hues on the spectrum (certainly there is no better basis) violet is a deep blue with only the slightest suggestion of reddishness.

Purple consists spectrally of red and blue (or violet) and to the class of purple belongs a vast number of beautiful colors. Among these are pink, rose, magenta, mulberry, mauve and lavender. These are arranged approximately in their decreasing proportion of red and increasing proportion of blue (or violet). For example, pink is a tint of very reddish purple and rose is a lesser tint of a purple which is still quite reddish. Magenta is a purple (usually to some degree a tint) still inclined toward the red. Mulberry is a shade of purple still somewhat reddish but not to the extent of the preceding colors. Purple may be said to be a color in which the red and blue are about equal. Mauve is a purple inclining toward blue (or violet) and lavender is a purple decidedly bluish and to some degree a tint. A tint is made by adding white to a hue or, in the case of a dye, by diluting it. A shade is made by adding

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black to a hue. We can add black to a tint and therefore we can have various shades of a tint. For example, we can produce various shades of rose.

By increasing the illumination we cannot within practicable limits produce the effect of diluting a color with white although with intensities as strong as sunlight outdoors, the hue of a red fabric, for example, begins to move toward the orange. In the case of small lamp shades close to a brilliant light-source this tendency toward apparent dilution is sometimes observable. On the other hand, by reducing the intensity of illumination on a colored surface we do produce deeper shades because in effect a reduction in the intensity of illumination is the same as adding black to a pigment or dye.

A knowledge of many other facts of color is helpful in designing or in choosing portable lamps for the home. Many phases of color have been discussed elsewhere* from the scientific as well as the artistic or more broadly the psy-

* "Color and Its Applications," 1915 and 1921, M. Luckiesh. "The Language of Color," 1918, M. Luckiesh.

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chological viewpoints. Only some glimpses of the science and art of color will be presented in these chapters. A knowledge of color-mixture is necessary in order to eliminate guesswork in combining layers of fabrics to produce the final effect desired.

It should be noted that the illuminant has a considerable effect upon the appearance of a color so in combining fabrics be sure to view them by light transmitted from the light-source to be used. The appearance is generally quite different with artificial light than with daylight. For example, a mulberry may be just the color desired when appraised under daylight but when viewed by transmitted artificial light it may be quite too reddish. In general, colors lose blue and gain red when illuminated by artificial light.

Colored materials often appear quite different by transmitted and by reflected light respectively. An appreciation of this fact will sometimes forestall disappointment. Furthermore in choosing a colored fabric for a shade it should be remembered that the colored light which is

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transmitted is going to illuminate objects. This is not a factor in choosing a color for a vase or other ornament which is not to transmit quantities of light like a lamp shade. A green vase, for example, may be just the correct note in a decorative scheme but a green shade transmitting quantities of light which illuminate the faces of our charming guests at dinner is likely to be rather incorrect.

It is to be noted quite generally that designers of artistic lighting fixtures, and especially of portable lamps, fail to draw a simple diagram which would insure the utility of the lighting device. Even the householder, who is contemplating the design or purchase of a shade for a pedestal or of a shade and pedestal, will find it of great help to make a drawing to scale. This drawing need not be one of artistic details. It need only consist of the diameter and depth of the shade, its general outline, the height from the base of the pedestal, and the position of the light-source. A little consideration will reveal quite definitely how large the shade should be to appear properly proportioned. Then a shop-

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ping trip can be made with a guarantee of success for if a twenty-inch shade is required the drawing will show it. This converts the usual guesswork into reasonable certainty.

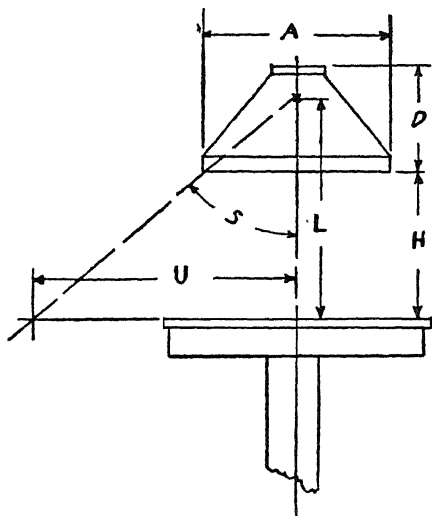


Fig. 5. Showing the principal related dimensions which determine the usefulness of a portable lamp.

But the drawing does a great deal more for it will reveal certain features which go to make up a satisfactory portable from the viewpoint of utility. In Fig. 5 we have the bare outline of

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a shade supported at a certain distance above a table top. In order that certain simple terms may be clearly understood let us refer to the dimensions represented by the letters. *D* is the depth of the shade. This includes the fringe if one is used, for a fringe intercepts light and must be taken into account. *H* is the height of the shade above the top of the table or the floor as the case might be. *A* is the maximum width of the aperture of the shade and will always mean the lower aperture. *L* is the height of the light-source (the filament of the electric lamp) above the floor or table. Incidentally the height of the pedestal exclusive of the socket and electric lamp, is of importance from a utilitarian viewpoint only in so far as it affects the height of the light-source or of the shade. Finally, *S* is the angular spread of the direct component of light which is an important final result when utility is considered. As will be seen later, the spread may also refer to the upward component of light from a shade with an open top or from one even more definitely designed to give some indirect lighting. It is the angle between

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the vertical axis of the pedestal and the line drawn from the light-source through the bottom edge of the shade. If the aperture is not circular the line is drawn from the light-source through the edge of the greatest distance from the pedestal.

But even the angular spread is not the final factor for we can lower the shade and light-source by shortening the pedestal without altering the angular spread. However, in doing so we shorten the distance U which is arbitrarily taken as the maximum distance from the axis of the pedestal where direct light falls along the plane of the table-top. This plane appears to be the best choice for this purpose. If the drawing is made to scale the distance U in feet or in inches is obtained. From such information it is possible to ascertain whether or not the useful direct light is spread over an area too great or too small.

It is obvious that if the spread of light is large, as in Fig. 6, the direct light covers a wider area of usefulness; however, in this case it is too great because the light-sources are not suffi-

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ently screened from view. A table is generally about thirty inches in height and an adult's eyes are usually about fifteen inches above this level when seated in a chair as for reading. In such

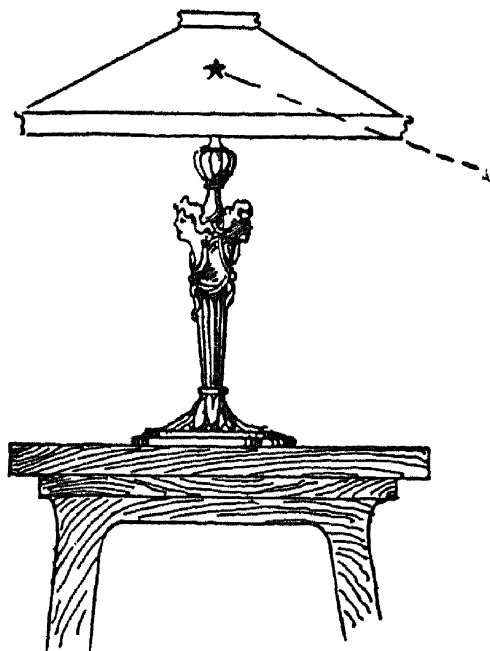


Fig. 6. Portable giving a wide spread of light; in this case it is too wide.

a case as Fig. 6 the reader must move to a considerable distance from the table before his eyes are above the imaginary line (the boundary of the spread) which is drawn from the light-source through the bottom edge of the shade. Being above this line insures the reader of hav-

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ing the light-source screened from view but when this is accomplished by moving far from the light-source the intensity of illumination may be too low.

A study of Fig. 5 shows that several factors influence the useful distance U . If the pedestal is lowered S is unaffected but U is decreased. If the light-source is raised S and U decrease but if it is lowered they increase. If the aperture of the shade is increased, S and U increase, but if it is decreased, they are decreased.

In Fig. 7 we have a common type of shade—the cylindrical one. With the dimensions shown the spread of light is too small to be very useful unless the work is held close to the lamp. It would be generally unsatisfactory from a utilitarian standpoint but this shape has artistic possibilities. By lowering the light-source in the shade or increasing the diameter of the shade it is improved in usefulness because the spread of direct light is increased. It is not wise to trust to transmitted light for obtaining sufficient intensity for working or reading because the shade usually would be too bright

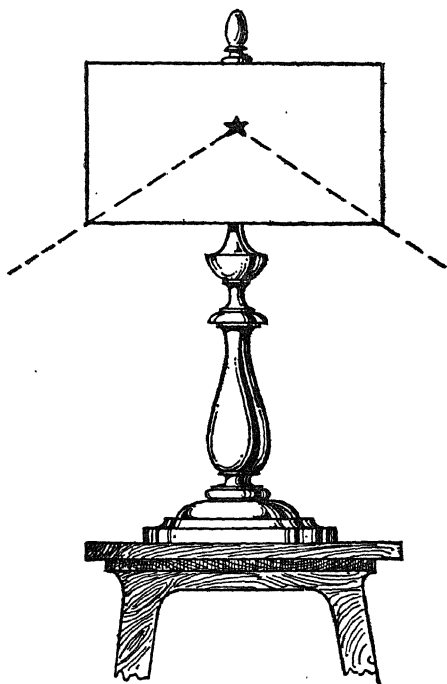


Fig. 7. The closed-top cylindrical or drum shade, showing component of direct light.

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for eye-comfort. Lamp shades must be shades in the strictest sense because owing to their low position the shades are directly in the field of view and, therefore, we should not have them bright. In other words, the shades must be dense and we must depend largely upon the direct light for close work involving vision.

So far we have been considering portables with one light-source. Unfortunately the use of more than one light-source complicates matters. For example, in Fig. 8 we have two of them. The spread from each light-source must be taken into account and this varies for different directions from the portable. At a certain position all dimensions may be quite satisfactory for one of the light-sources but the other light-source or light-sources may be quite unshaded and glaring. Carefully investigate this with any portable and you will be convinced that oftentimes the ideal is to employ only one light-source. This is rarely being done in the larger portables at the present time notwithstanding the simplicity of construction and also of the higher efficiency of the larger electric filament

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lamps. Of course, there is the advantage in the case of two or more light-sources of having a low illumination when only the charm of the

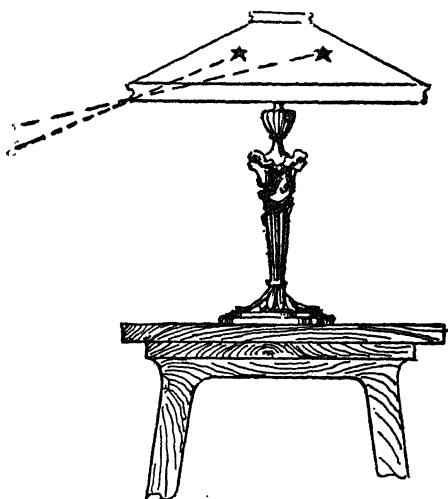


Fig. 8. Showing the effect of two light-sources.

light is desired and a high intensity when reading or sewing is to be done.

No precise rule can be given as to the amount of spread or to the useful distance U (Fig. 5) necessary from a utilitarian viewpoint. The conditions vary so much that precision is im-

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possible. A library table may be large, thus making it impossible to get close to it, or it may be small so that the reader and his book may be close. Experience indicates when the spread is less than forty-five degrees the lamp is not very useful except as an ornament and for the light that it contributes to the general illumination of the room. In general, the spread should be in excess of forty-five degrees but not too much so.

The same analysis applies to floor-lamps for all that is necessary is to imagine a table-top thirty inches above the floor. Just as table-lamps may vary in height in accordance with their other dimensions so may floor-lamps. The most common floor-lamp generally is not over five feet in height and the light-sources are usually about four and a half feet above the floor. If the top of the shade is less than five feet above the floor it is usually best to have the top closed. In the case of table-lamps this rule can not be generally applied in practice although in this case it is best not to have shades open at the top if, when the lamps are setting

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on the table, the top of the shade is much below five feet from the floor.

A desirable miniature floor-lamp which until recently was rarely found is one about four feet in total height. If this has a nearly flat shade it is a very useful portable and it can be very decorative. Such a portable can be placed near a chair or davenport for reading and inasmuch as it sets on the floor it obviates the necessity for a table. Floor-lamps have a decided advantage in this respect for they can be used for reading, for sewing, for illuminating tables and piano music, and for various other useful purposes without requiring an article of furniture as a table-lamp does.

The height of the light-source or rather of the middle of the shade is quite important in some cases. For example, in the boudoir one stands at the dresser but sits at the dressing table. The top of the dresser is nearly three and a half feet above the floor and an adult when standing desires a light-source about five and one-half feet above the floor. This calls for dresser-lamps nearly two feet in height. In-

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asmuch as these portables must be slender their construction is an important matter. Quite the opposite situation is found at the dressing-table whose top is about thirty inches above the floor. The person being seated desires a light-source not more than three and one-half feet above the floor. This calls for a squatty portable about one foot in height. These are merely touched upon in passing but they will be considered further in another chapter.

In general, shades should be lined with material which reflects light efficiently. Usually white is used but a cream-tinted material seems to reduce the harshness of the light considerably without reflecting appreciably less light than the white. Of course, in some cases it is desirable to obtain the charm of tinted direct light and this can be obtained by means of a colored lining. For example, a rose lining will reflect light appreciably tinted. However, there is usually a harshness to the direct component of light when the lining is rather dark. The condition is a good deal like the sun without the softening effect of sky-light. A white or cream-

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tinted lining takes the place of the sky in the direct-lighting effect under the lamp.

This same point applies to the use of portable lamps in general. If we have portables with dense shades and no openings in the top sometimes an insufficient amount of light reaches the upper walls and ceiling. This is particularly true when the lower walls and especially the floor-covering are rather dark or of low reflecting power. Although the cozy charming effect of portable lamps is due largely to the subduing of general light, a certain amount of scattered or general light is desirable. If there is not an appreciable amount of general light the room may appear dingy and reading, sewing and other activities which call for close vision are likely to result in eye-strain. In order to avoid this extremity it is wise to have a shade or two with open tops or even a portable or two which provide indirect or upward components of light. The latter are discussed in later paragraphs.

It is hoped that the foregoing discussion of certain technical principles has not discouraged the reader for they are important when design-

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ing, purchasing, or using portable lamps. These are principles which, notwithstanding their simplicity, are very generally ignored. They are real vital factors for they determine not only the usefulness of the individual lamp but also the character of the lighting effect of a group of portables. We could go on much further with the analysis of principles but instead of risking boring the reader we will trust this introduction to lighting principles will suggest other important details. Furthermore other phases will be touched upon here and there in connection with the construction and use of portables.

However, there is still one important aspect of portables that must be discussed here because it possesses so many possibilities little known to the user of light. This is the upward component or indirect lighting obtainable from portables which eliminates the risk of dinginess when only direct portables are used. This also makes it possible to illuminate even large rooms to a sufficiently high intensity for any occasion by the method of so-called indirect lighting.

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Many charming rooms are now lighted with a variety of effects for any occasion without the use of any wall or ceiling fixture. This possibility of indirect lighting is final proof of the extreme variety of moods or of lighting effects obtainable solely by the use of portable lamps.

The simplest portable from which an upward component of light, and consequently indirect lighting, can be obtained is that which possesses a shade having an open top. In Fig. 9 two of these are shown in simple outline. The confines of the upward components are shown by the broken lines. In the case of a cylindrical shade the upward component is of the form of a cone and in the case of a shade with a square cross section it would be of the form of a pyramid when one light-source is used as shown. It is seen that the shade *A* does not provide a very useful direct component but shade *B* does. Of course, if the diameter of the shade *A* were increased it would also supply a more useful direct component.

It is strange that fixture designers and others have been quite slow in awakening to the fact

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that considerable equipment can be concealed within the shades of portable lamps. A next step toward indirect lighting is shown in Fig.

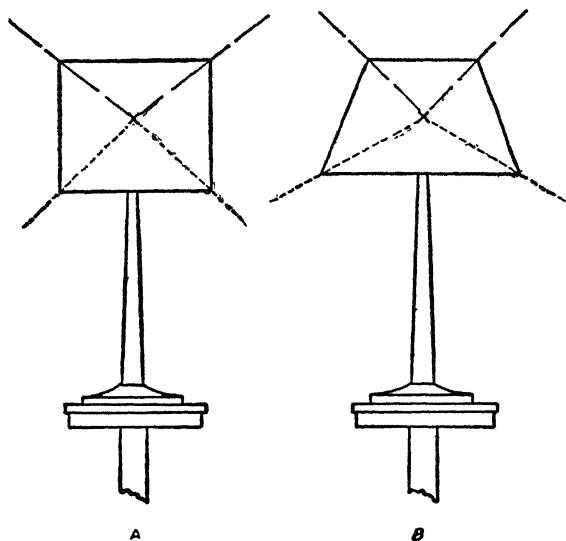


Fig. 9. Illustrating the upward component of light from open-top shades; also the direct downward component.

10. In this case a prismatic glass reflector is supported upon a pedestal. This reflector sends light upward but permits some light to

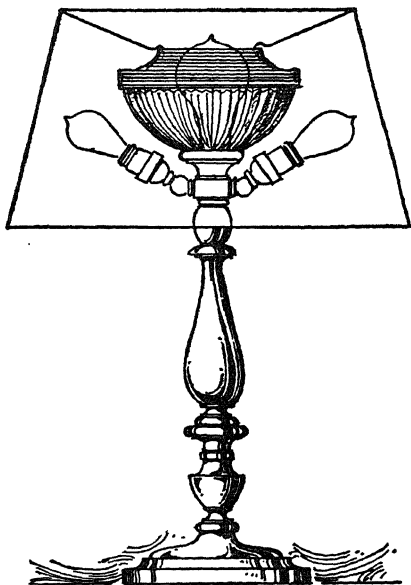


Fig. 10. A portable designed to provide indirect lighting as well as direct light. The large central light-source is surrounded by a prismatic glass reflector which directs most of the light upward.

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pass through which illuminates the shade. Thus with only the center light-source in operation we have an indirect lighting unit with the shade sufficiently luminous to be pleasing in appearance. An ordinary room can be illuminated by such a portable by light reflected from the ceiling. Additional lamps may be installed as shown, from which a direct component may be obtained when desired. This is a very desirable portable for many purposes. A simple lamp of this type can be made with a single light-source and a small opal-glass reflector supported on top of the pedestal.

A more elaborate portable lamp of the direct-indirect type is illustrated in Fig. 11. This was the first of this kind developed commercially. It consists of a silvered glass reflector of wide aperture for providing the upward light. This reflector permits some light to escape at the bottom which eventually illuminates the shade satisfactorily. Other lamps are provided as shown for the purpose of obtaining direct light. In Fig. 12 is shown a very simple indirect-lighting portable.

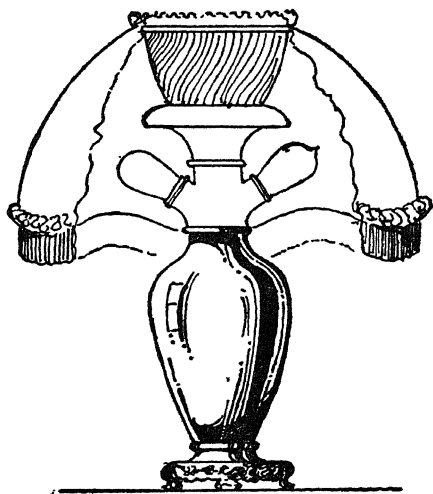


Fig. 11. A direct-indirect portable. The central light-source is surrounded by a silvered reflector which sends the light upward. Below this is an opal glass which permits some light to escape, so that the shade is illuminated even when the smaller electric lamps are unlighted.

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There are many possible variations of this basic idea and indirect lighting may be obtained from table-lamps, floor-lamps and various portable novelties which rest on the bookcases, on the piano, or on other things. Indirect lighting from portables can be obtained by means of shields placed in front and extending around the sides of a light-source or several light-sources. These must be placed near the walls and therefore some light is reflected from the walls. Such portables with shields are useful in lighting pictures and other objects.

The tops of the portables used for indirect lighting should not be so low as to permit a person standing to see the light-source easily. Floor-lamps of this character can be nearly six feet high and still appear satisfactory. A table-lamp can not have the top of the shade so high because the lamp would appear too tall for the table. However, if the top is thirty inches high it is not out of place if of large size and in the proper setting. When care is taken to have the light-source sufficiently low or shielded in a small reflector as in Fig. 10, the top of the shade

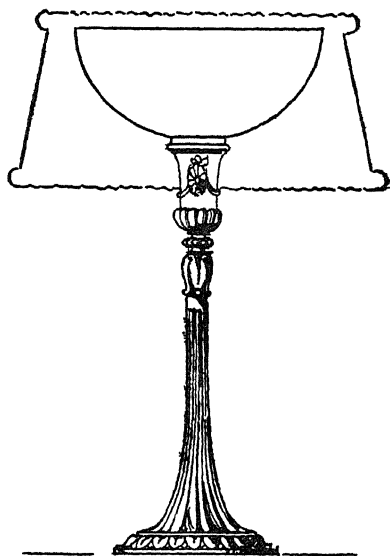


Fig. 12. A simple indirect-lighting portable, with an opal glass shade which diffuses some light to the exterior decorative shade.

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need not be higher than any ordinary large table-lamp.

The possibilities of indirect lighting by means of the portable lamp have been well demonstrated by many installations; nevertheless, they are too little known. The householder and others will find in them many satisfactory solutions of lighting problems. Many variations of the principles discussed await those who will give this type of portable the consideration it deserves.

Just as the shade with open top should generally be confined to the tall portable, short portables should generally have closed tops. If the short portable has an open top so that the light-source is easily visible there will be many occasions when it is glaring and therefore unsatisfactory. A good example is the short portable for the dressing table. Of course, when seated at the table one is not likely to see into the top but when standing such portables are likely to be unsatisfactory. Incidentally, for the dressing table the shades may be such as to be easily tilted for there are occasions when

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the more intense illumination directly from the light-sources is desirable.

There are many ways of fastening the shade to the pedestal. In the small portables a shade-holder is held on the lamp bulb by its own spring clutch. This is not wholly satisfactory for the shades are generally awry. Candle portables may have the shade-holder fastened to an upright which is clamped to the candle by means of a spring clip. These methods serve some purposes but the best way is to have the shade-holder fastened solidly to the upper part of the pedestal. This will be found much more satisfactory even with the smallest portables. There is not only an air of stability and permanency but a general neatness in the appearance due to the fact that the shades are not easily dislodged from their proper position.

Shade-holders for most ordinary portables should be designed preferably in many cases for a single light-source unless a variety in intensity of light is specifically desired. This means that the electric incandescent lamp will stand upright at the top of the pedestal. The

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effect is more symmetrical and generally more satisfactory than when more than one light-source is used unless, of course, both direct and indirect components of light are desired. In using a single light-source the size of the electric lamp is limited only by the depth of the shade. The more efficient gas-filled electric incandescent lamps can be used for the larger portables. For the very short portables it is sometimes necessary to use the round-bulb lamps owing to the smallness of the space available. In the very small and slender portables the candelabra lamps should be used. In general, diffusing bulbs eliminate a harshness in lighting effect sometimes produced by clear lamps. The matter of light-sources is discussed in a later chapter.

The harshness of lighting effect sometimes encountered in the ordinary direct-lighting portable can be overcome by a device illustrated in Fig. 13. This portable is made entirely of metal. A reflector *R* surrounds the light-source and reflects the light upward to the inner surface of the metal shade *S*. This surface is

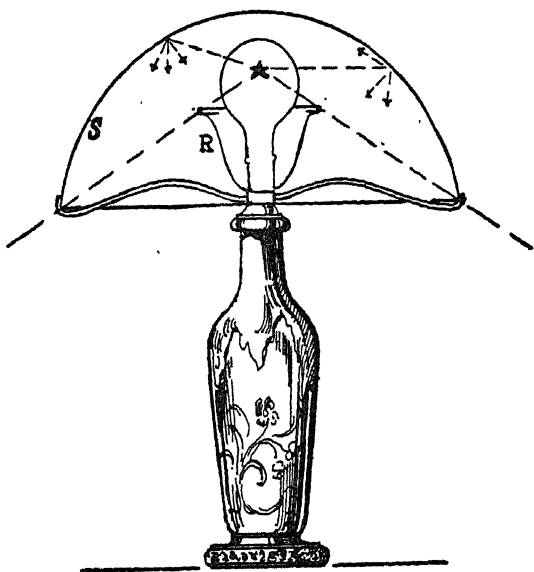


Fig. 13. The light-source is shielded by an opaque reflector, R. The light is reflected from the inner surface of shade, S. Thus, coming from a large area instead of a small brilliant filament, the lighting is less harsh.

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white or slightly tinted. It reflects the light downward and the light coming from the large area of the inner part of the shade is less harsh than if it came directly from the lamp. The principle is analogous to substituting a bit of sky for the direct rays of the sun. Suitable decorative treatments for such a lamp are obvious. One which is especially satisfactory in this case is to have a dense opal-glass lining inside the shade *S* and to have ornamental patterns cut through the metal shade. A modification of this scheme is to use a deeper shade of any suitable material which is white inside and to substitute a very dense opal-glass reflector for the metal one designated by *R*.

CHAPTER III

PEDESTALS

THE choice of materials and of objects for pedestals is limited only by cost and congruity. Various kinds of turned and carved wood, vases, wrought iron, metal tubing, candle-sticks, glass, ornaments and antiques are used. How far we may go toward enlisting ornaments for such service must be left to the individual taste. Observation and careful consideration may be supplemented by advice which can be respected as worth while. Antiquity removes some of the handicaps an object might otherwise possess. Beautiful carvings in wood and marble are approved although in the use of statuary it is easy to err on the side of incongruity. Certainly a figure in quiet repose cannot support a lamp shade without arousing in us a feeling of sympathy for one whose repose is violated by the necessity of straining muscles to do the work

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of supporting a shade. Furthermore, the attitude of the modelings of living animals or beings must be in keeping with the office of supporting a light-source and shade. It is a safe rule to have the pedestal a support in every sense although taste and usage approve stressing this point to some degree.

The use of wood is very common and in many cases the pedestal constructed of this material is purely a supporting member. The kind of wood and its decorative treatment are quite a matter of taste and therefore are subject to great variation. Appealing forms can be made by the method of turning and some of the most charming simplicity is obtained in this manner. On the other hand, the commonness of this treatment may lead us to the choice of carving (Fig. 14) but in adopting carving we should not overlook the fact that we are entering the phase of embellishment which is usually more difficult to reconcile with the average modest interior.

We appreciate genuineness and therefore we like real mahogany, teakwood and walnut. However, there is no reason why we should

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not be permitted to use other woods if we cannot afford the more costly ones. Poplar properly stained provides a fair imitation of ma-

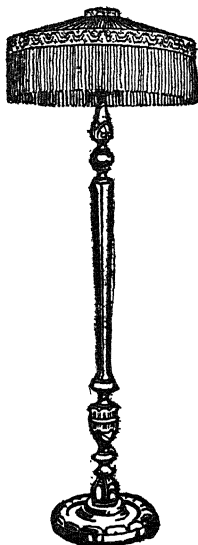


Fig. 14. Wood pedestal with burnished gold highlights.

hogany. Of course in the case of polychrome (Fig. 15), or of painted pedestals, the basic wood is of little moment. Those who like to work with their hands will find it an easy mat-

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ter to make pedestals of wood. It is usually out of the question to have a solid piece for the entire pedestal or even for either the base or the column. In fact, better mechanical results

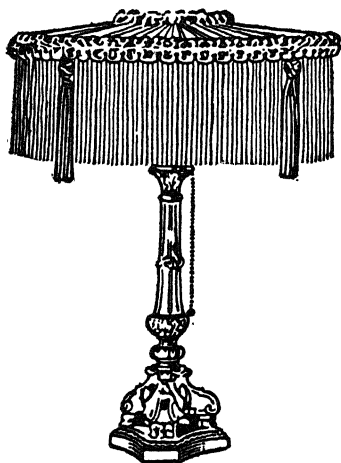


Fig. 15. Polychrome pedestal.

and durability are obtained by built up sections. Generally two pieces are sufficient for the column. These are carefully smoothed on one side and a longitudinal groove is cut in the smoothed sides. The two sections are now glued and clamped together until the glue is dry. The

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grooves now being juxtaposed, provide a place in the interior of the column for the electric wiring or for piping in the case of a gas-portable. The base is also constructed in a similar manner. In fitting the pieces the grain should be taken into account. Sometimes the base is turned separately and after the column is turned it is inserted into a hole provided in the base.

Poplar and various cheaper woods are quite satisfactory for pedestals. They take stain or paint very well. Such a pedestal finished with black paint and rubbed well after various applications can be made very beautiful. For the boudoir, pedestals painted in warm grays and appropriately decorated provide artistic portables. Anyone with care can do much in the finishing of wood pedestals. If it is possible to finish them in the lathe an excellent result can be assured. Shellac will be found to be more satisfactory than varnish in many cases because it dries so quickly.

Perhaps the layman may hesitate to try his hand at carving but it is not too difficult for

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venturing into. A book on ornament is helpful in this case as in other phases of the making of portable lamps. A pattern may be chosen which is in accord with a pedestal built up of a square or polygonal cross-section and such a pedestal can be made without the equipment necessary for wood-turning.

Some very unique finishes can be developed on wood by using chemicals and even by means of raw pigments rubbed into the grain. A pedestal may be turned of the shape of an elaborate vase. If red, green, blue, or other pigments be rubbed into the grain in a skillful manner a unique pedestal is the result. Varnish will add the appearance of glaze. Wood offers many possibilities if one will experiment with shape and finish.

The use of wrought iron pedestals is well known. In the proper place such a pedestal surmounted by a silk or a parchment shade is very effective. They make sturdy lamps suitable for many interiors. (See Fig 16.)

When a tall slender portable is required such as on the dressing-table, metal tubing proves

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quite satisfactory. The tubing is cut of correct length and threaded at the top and bottom. A turned wood base may be provided with a suitable hole in the center and it can be fastened

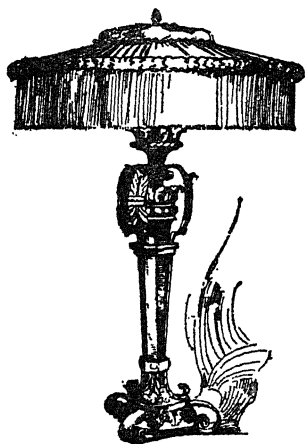


Fig. 16. Wrought iron table lamp with soft old Florentine finish. Blue and gold twenty-four inch silk shade.

to the tubing by means of a threaded nut. The shade-holder and fixture can be screwed on the top. Of course, the tubing can be of a metallic finish but it is easy to cover it with pleasing results. A strip of velvet is folded wrong side

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out and stitched on a machine. This is now turned right side out and slipped over the tube. Suitable means can be provided for sewing the velvet covering to the top and bottom ends of the tube to hold it from slipping. If the seam is properly sewed and trimmed it will not be

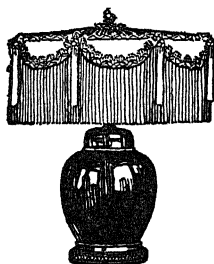


Fig. 17. A vase for pedestal.

conspicuous. However, a longitudinal slot in the tubing can be provided for the seam to be imbedded into with the result that the bulge of the seam disappears. The metal tubing may be wrapped with twisted cord or other material.

Vases have been very popular for pedestals and rightly so for some of the most charming portables have such pedestals (Fig. 17). There

PEDESTALS

is such a variety of them that it is usually possible to find one suitable. Perhaps one of the chief criticisms of their use can be directed toward those of such large diameter that they destroy the usefulness of the direct component of light. But of course, for purely ornamental purposes, this objection disappears if the portable as a whole is artistic. Then there is the matter of congruity. Certainly a Japanese vase should usually have a shade of Japanesque design. This may be a pagoda shape but there are many places where this shape is unsuitable owing to its complexity of line. A solution is a panelled shade with simple Japanesque designs. The style can be carried out even more completely in some cases by having the frame of the shade of lacquered wood. We also have the antique vases with which it is well to carefully consider the material for the shades. For a dark bronze vase a parchment or old gold fabric is suitable.

The shade-holder may be of spun metal to fit the top of the vase but if one wishes to construct the holder himself he will find it easier

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to turn a piece of wood of the proper shape to which the metal parts may be fastened. If the vase is of glass or of porcelain the drilling of a hole near or in the bottom of the vase may best be done by an expert. However, there is no difficulty in doing this by using a brass tube for a drill. A paste of water and fine emery powder is applied at the point where the tubular drill is turned against the vase. The addition of turpentine appears to make the drilling less difficult in some cases.

Candlesticks new and old are among the most interesting of pedestals. These can be obtained of a great range in size from the smallest ones in which candelabra lamps are used to the large ones suitable for full-size table-lamps. In fact, high standards can be found which are suitable for floor-lamps. Parchment and tapestry shades harmonize very well with the older candlesticks although silk and other fabrics of dignified color and pattern can be successfully used. For the library table a pair of large candlestick portables is very satisfactory. Likewise in the dining-room the smaller candlesticks

PEDESTALS

make suitable ornaments when equipped with electric lamps. In fact, candle portables in which candles are burned provide a charming note on the buffet or even on the dining-table. In this case a mica cylinder may be used to protect the shade from the flame. When purchasing candlesticks with the view to using them as pedestals for portables it is well to examine them carefully to ascertain whether they can be drilled lengthwise for wiring. If they cannot it is well to look for some which can be, for the wire should emerge at or near the base if they are to look well. Sometimes it is desirable to insert a tubing painted to imitate the candle and to have this contain the socket for the lamp. Candlesticks with a number of arms have been successfully used for pedestals but oftentimes it is impossible to conceal the wires in them.

The old candelabrum or support for the oil-lamp as used by the Romans has been electrified with success. It may be equipped with a shade but perhaps it is better to use it as a support for an urn, vase, or other receptacle in which

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lamps are concealed. This makes it possible to obtain a unique indirect lighting.

Old kerosene lamps may be electrified with success by the addition of the proper equipment. Some of these will be found to make very attractive pedestals for portables.

In constructing the fixture or holder at the top of the pedestal one will find it to advantage to go to a lighting-fixture shop to acquire the fittings necessary. Connectors for fastening the sockets in any position and other parts can be purchased. In fact, one may obtain the complete fixture and holder ready for fastening to the pedestal. However, there is usually opportunity to improve upon or to alter those available in the market so that they suit the specific case better than originally. Ofttimes a little ingenuity will produce a more compact fixture for a small shade or a very shallow one than is obtainable from the dealer. An inquiry into the various kinds of sockets is likely to be of advantage. The so-called snap-switches are least expensive but usually are not as satisfactory as the pull-chain socket. The pull-chain

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can be obtained in any length or it may be replaced by a cord or braided silk. These may be finished with a tassel, a piece of carved wood, or any suitable ornament. By extending the length of the cords one will be repaid for the effort in convenience.

In selecting or in constructing a portable lamp, the shade-holder and the arrangement of the sockets are perhaps the most important mechanical features. A firm holder will insure against the constant annoyance of a flimsy one. This portion of the pedestal is responsible for much of the utilitarian effectiveness of the portable lamp. In the preceding chapter the construction of various special portables for indirect lighting was touched upon. In a later chapter various novelties which involve pedestals are discussed.

CHAPTER IV

LAMP-SHADES

It is not the intention in this chapter to discuss the details involved in actually making the shade. One skilled in needlework and possessed of a creative spirit will accomplish much by observation, study and experimentation. Furthermore printed matter is available pertaining to this point and various shops and department stores give information freely pertaining to the actual details of construction. It is the aim of this chapter to point out certain principles and to discuss materials to the extent of aiding in planning or in purchasing portable lamps or lamp-shades.

If a shade is to be made for a certain pedestal it is well to draw an outline sketch of the vertical profile to scale. This enables one to experiment with the shape and dimensions before investing time and money in shopping or in

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making the shade. Such a sketch is likely to be an economy in any case. When considering the design of an entire portable for a certain place the sketch is the best beginning whether it is the intention to make the portable or to purchase it. If the pedestal is already possessed the material for the shade is a matter of serious consideration. For a dignified pedestal such as an antique vase, dark wood, wrought iron, or an old candlestick it is obvious that frivolous patterns and light tints are unsuitable. Parchment, brocade, dignified solid colors in silk and some other woven textiles are better for such pedestals. On the other hand for the daintier pedestals there are plenty of materials available.

Among the materials which are used for shades are taffetas, heavy China silk, printed silks, batik silks, painted silks, brocades, georgettes, crepe silks, brocaded chiffons, cretonnes, metallic brocade, gold cloth, tapestry, velvet, linen, parchment, glass, mica and metals. Among the materials used for trimming edges are moss, guimpe, chenille, bead and silk fringe,

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lace, ruching. Sometimes a flounce is used to finish the bottom edge of the shallower shades. The variations of treatment of these materials are numberless.

Parchment and vellum are quite expensive but good drawing paper when rubbed first with linseed oil and then painted produces effects approaching that of parchment. Linen may be shellacked or varnished and then painted with oil paints. Silk and other woven fabrics can be painted with success. Heavy paper well painted so that it is nearly opaque can be perforated with various designs and over these cut-outs thin paper may be pasted on the inside. Various pleasing effects may be obtained in this manner. Mica may be made into cylinders or used in panels. It is very satisfactory for ornamental lamps. Suitable pedestals upon which cylinders of warmly tinted mica are mounted are very charming torcheres (Fig. 18).

Shades may be classified in various ways but from the viewpoint of lighting effect they may be divided into shields, shades with closed tops and those with open tops. The shields are

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usually confined to candlestick portables. These vary from the smallest to the large floor type. They are not often practicable except for those cases where the portable is located near the wall. Otherwise the light-sources are likely

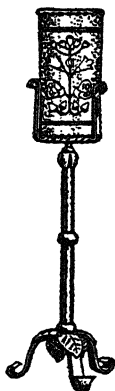


Fig. 18. Wrought iron pedestal and mica shade.

to be seen. The shield should not only be before the light-sources but should extend around the adjacent sides sufficiently to shade the light-sources from all positions of the observer. Portables of this type are not only ornamental but they can be skillfully used to illuminate pictures, tapestry and other objects. The mate-

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rials most generally suitable for shields are parchment, tapestry and silk but there are some suitable glass shields available in the market.

Shades with open and with closed tops have been discussed in Chapter II in connection with the principles of design. The open-top shade should be considered oftener than it is for it permits some light to emerge directly upward. This is always valuable when using portable lamps for it provides some diffused general lighting. As stated before this is always good insurance against too little general lighting which sometimes results from the use of closed-top shades entirely.

Wire-frames for shades can be obtained in a great variety of shapes and sizes. Even persons possessing skill and the desire to make their lamp-shades will find it generally the wiser plan to purchase the wire-frames. If special shapes or sizes are desired it is not difficult to have them made according to instructions.

Perhaps the most popular form is the empire and its variations. The flat empire has much to commend it from a purely utilitarian view-

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point. These shades are dignified, very generally adaptable to lighting by means of portables, and fortunately, are among the easiest to make. The empire shade is of circular cross-

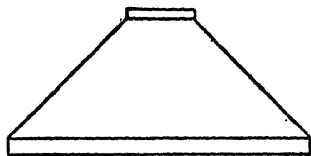


Fig. 19. Empire shade.



Fig. 20. Shallow empire shade.

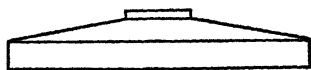


Fig. 21. Extremely shallow empire shade.

section and is somewhat of the form shown in Fig. 19. The shallow empire as the term implies is shallower than the full empire and is similar to that shown in Fig. 20. There is a further variation as in Fig. 21 which might be

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termed the extremely shallow empire having a barely perceptible slope. Another empire shape is shown in Fig. 10. There are also variations of these shapes. Some have a downward extension of wire-frame at the bottom of the sloping portion. Others depend for this upon a pendent fringe or flounce.

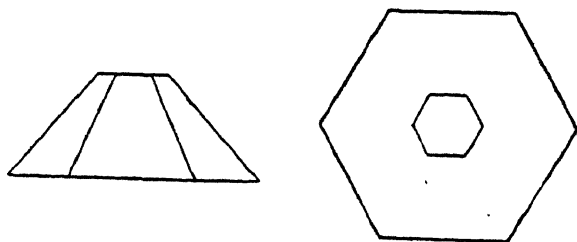


Fig. 22. Pyramidal shade.

Another simple type is the cylinder or drum with vertical sides and circular cross-section. Variations from this are made by lessening the upper diameter with the result that a section of a cone is obtained. These can be closed or left open at the top as desired. See Figs. 7 and 9.

A variation from the conical is the pyramidal consisting generally of six flat sloping sides.

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This is shown in elevation and in cross-section in Fig. 22. The form lends itself to panelling. Sometimes the panels are of two different sizes as shown in cross-section as in *A*, Fig. 23. Usually an eight-sided shape is desirable when this variation in the size of panels is contemplated.

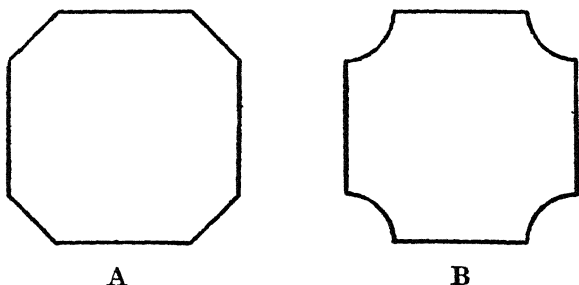


Fig. 23. Panelled shades (cross-sections).

plated. Another step is shown in cross-section in *B*, Fig. 23. In this case there could be four panels separated by shirring in the curved portions.

There is a vast variety of shapes of shades available but the simpler forms are dignified, easy to make, popular, and likely to outlast more complicated ones in our appreciation. There

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are places for the more intricate shapes but in general the simpler ones fit better and "last longer" in most of our homes than the "fussier" ones.

Although the wire-frame is by far the most popular and satisfactory frame for shades we are not limited to its use. Wood-frames can be secured and these generally require the panel treatment. In general they are not as durable as the wire-frame. Metal frames can be made of flat strips and angles and metal strips can be combined with wire in the construction of frames. Sometimes extra heavy wire is desired. Cardboard frames can be easily made but they cannot be considered durable. Glass and decorative metal shades are obtainable and some beautiful portables are constructed of a combination of these. Glass and metal have a great advantage over woven fabrics for, barring accidental breakage, they are much more durable. On the other hand glass and metal shades are not so generally applicable as parchment and woven fabric, especially for the larger portables.

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When stiff paper is used a frame is not absolutely necessary but usually a frame will be found worth while. It makes the shade more permanent and eliminates the danger of its becoming disagreeably deformed or displaced.

In general, shades should have a light-colored lining, a cream tint being better than a pure white. A stretched lining of this sort in the case of a woven-fabric shade presents a neat appearance. If possible, the reflecting power of the inner surface of parchment and some other shades should be increased by whitening or even by the addition of a white lining of fabric. Sometimes this is done by the use of white opal glass.

Assuming that a sketch has been made of a portable lamp it is interesting to cut out the paper from the outline of the shade leaving strips at the corners if there are any. Now various fabrics can be placed underneath the drawing and by partially closing the eyes and viewing the sketch at arm's length a fair idea of the appearance of the completed portable may be obtained. If this cut-out, beneath which the

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fabric, or various layers of fabrics are placed, is viewed against the artificial light to be used, an idea of the color will be gained.

In choosing fabrics for a shade we enjoy the advantage of obtaining the desired effect by means of several layers of different colors if necessary. A common criticism which may be directed against shades is that they are not dense enough. The light-source should not be distinguishable through the shade. Sometimes the addition of a white lining will overcome this defect and at the same time make a better shade by the increased reflecting power of the inner surface. In some cases it is necessary to use several layers of fabric in order to obtain the desired color and density.

In combining layers to produce a certain color which one has in mind, a knowledge of combining colors is helpful. Although it is out of the question to go deeply into the subject here a few hints will be given. The color of a woven fabric as viewed by transmitted light is due both to the transmission of light through the colored fibers and also to the reflection of light

LAMP-SHADES

by them. If two layers of different colors are superposed the final color of the light transmitted by the combination is approximately that which is common to the two. This is strictly true in the case of colored glasses or gelatines superposed but owing to the fact that woven fabrics have interstices it is only approximately true. Some light comes through the interstices and some is reflected by the fibers of one fabric or the other or by both. This complicates the result to some degree. In general, the color of the light is a lighter tint than that of a layer of woven fabric through which it passes. Furthermore, there is a difference in the transparency of fibers. Silk fibers are more transparent than most others.

With the foregoing statements in mind let us take up a particular case for the sake of illustration. If we could discuss the matter from the standpoint of the spectrum we could be more exact but to avoid technicalities we will present the case only approximately. Rose is a tint of a very reddish purple. It consists chiefly or approximately of red and blue, the latter com-

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ponent being small compared with the red. Under ordinary artificial light it will be noted that the rose tint inclines toward a more reddish rose owing to the scarcity of the blue rays in the artificial light as compared with daylight. Now if we superpose a yellow layer over the rose, the resultant transmitted light is reddish for the yellow layer has largely absorbed the blue. The red light is the only light transmitted by both layers.

Perhaps a few more examples will aid in understanding the principle. A deep blue and a yellow give a result bordering on gray, the residual color being either bluish or yellowish, depending upon how nearly the two colors are complementary. A blue-green and a greenish yellow when superposed give a resultant transmitted light tending toward green because this is the color transmitted in common by the two layers.

Mulberry belongs to the class of purples; it may be termed a red purple. By combining blue with it the result is a purple; that is, the red

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of mulberry color is decreased and the blue component is relatively increased.

A purple and a yellow superposed result in a red with perhaps a suggestion of purple remaining.

Red and blue-green transmit light bordering on colorless because they are so nearly complementary that they transmit no color in common. Likewise any pair of complementary colors transmits light tending toward colorless.

As already stated, there are always slight departures from the expected owing to the direct transmission through the interstices and to other causes mentioned.

The combining of layers is very interesting and aids in producing some wonderful and almost surprising effects. For example, in a room in which the lamp-shade should be blue in order to supply the correct note it is possible to place a layer of rose or of any other desirable color under the blue outer layer. When unlighted the shade appears blue as it should but when lighted the rose or other tint helps to produce a color

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of light much more desirable than the blue light would be.

Let us pause a moment to note that the colder colors of light are much less desirable than the warmer colors. We like to see and to feel warmth in the artificial light in our homes. We must not overlook the fact that in dealing with the color of lamp-shades we are not permitted the unrestricted freedom that we are in choosing colored ornaments. Our shade is not merely a colored ornament for it filters the light and therefore is responsible for certain color effects of the light as it falls upon the surrounding objects. A green or canary ornament may be very pleasing but light of the same color as it illuminates the faces about us is very undesirable. In choosing yellows for warmth in shades avoid the canary, lemon or light amber. It is much better to lean slightly toward the orange. Orange, moderate tints of red, rose and mulberry are examples of colors with warmth.

In combining layers of fabrics variety of pattern may be desired but perhaps it should not be obtrusive in a particular case. A nearly

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white lining upon which a layer with a pattern is superposed may be satisfactory. However, if the pattern is too obtrusive a thin fabric of plain color may be shirred over the patterned layer. The charm of the pattern subdued in this manner is very marked.

Many otherwise excellent shades are reduced in effectiveness by a fringe too long or too thin. The fringe must be considered as intercepting the direct light. Its length should be carefully considered in connection with the size and depth of the shade from the utilitarian viewpoint. When its length is determined it should be made dense or thick enough to effectively shield the light-sources from view. Usually a dense shade is more artistic than a thin one. For example, a double layer of silk fringe is usually more satisfactory in appearance than a thin one. Sometimes it is well to use a "skirt" or flounce, either alone or back of a fringe.

The finishing of the edges of the shade is a matter of taste. Various materials are available to suit the requirements. The decoration of shades can be worked out in these materials

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as simply or as elaborately as desired. Ornamental designs can be cut out of magazines and used for outlining purposes to guide those lacking in confidence. Many scraps of material may be made to yield medallions, panels and various embellishments. With the great variety of trimmings and other decorations and the combinations of the methods of laying on the fabrics such as stretching, shirring, pleating and panelling, the lamp-shade may be made suitable for most settings or purposes.

It is not always necessary to sew the fabric to the frame for it may be constructed separately and hung over the frame. In such a case it is usually desirable to use weights for holding the fabric in place. These "throws" may be carefully designed and constructed or the material may be artistically wrapped and draped around the shade. A skilled hand and eye should be able to produce some charming effects in this manner without the appearance of a make-shift. A certain flexibility in the use of throws is obvious.

If a lining or other layer cannot be obtained

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of just the desired tint it is not beyond the skill of an inexperienced person to dye material. Many interesting variations can be obtained in this manner even to the extreme of shading and of the effects obtained by tying knots. Shading is done by having a large receptacle of dye-solution. The fabric is thoroughly wet in clear water and then one end is immersed vertically to a depth of a few inches. It is held in this position for a few minutes then it is immersed deeper and so on. The amount of coloring acquired by the fabric depends not only upon the strength of the dye-solution but upon the time it is immersed. Various dyes will be found to work differently. Shading can also be done to some extent by dyeing the whole piece, rinsing in clear water and hanging up vertically to drain. Shadings of various colors can be applied to the same piece of fabric by immersing in different dye-solutions.

There are also the interesting results obtained by tying or knotting. A knot or a series of them is tied in the fabric before immersing in a dye-solution. Unless permitted to remain in

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the solution too long the coloring will not penetrate the tied portions. The haphazard shapes revealed after drying and untying the knots are

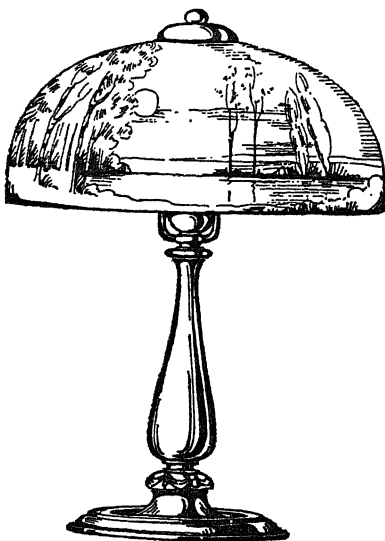


Fig. 24. Glass shade.

often very attractive. The process may be repeated with various dye-solutions drying before untying in each case and tying the knots in other places for the next dyeing. The possibilities of dyeing are manifold even for the uninitiated.

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Wicker portables are popular for some purposes and they are susceptible to various treatments in the use of fabrics. Usually cretonnes and chintz are used for these. Glass portables (Fig. 24) may be obtained in a variety of styles covering a wide range in cost.

There are many other materials for lampshades which have not been mentioned. Canvas, wall paper and crepe paper have been used.

CHAPTER V

USES IN VARIOUS ROOMS

PORTABLE lamps may be successfully used to solve nearly every lighting problem throughout the home and while doing so they are adding much of decorative value. Of course, they would not be used in the kitchen, the laundry, in other similar work-places, or in the bath-room but disregarding these, many or even most of the lighting requirements in such rooms as the dining-room, living-room, solarium, study, music-room, boudoir, bedroom and sewing-room can be taken care of successfully by means of the portable lamp. In fact, portables have many uses in other fields of lighting. Of course, there are the common uses such as on desks and on dining-tables in restaurants. But there are still many uses where the combination of utility and beauty is desired. But the principles en-

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countered in other fields are the same as those in the home so that the uses of portables will be discussed in connection with representative rooms in the home.

There are nine million residences in this country wired for electricity but according to the best modern standards they are inadequately wired. There is a paucity of outlets for connecting portables which is now being recognized. A majority of the occupants of these nine million homes are renters. Therefore the problem of lighting as encountered by these millions of renters must be considered. They must endure the fixtures which a landlord has supplied or what the previous occupant has left for them. As stated in the opening chapter the renter hesitates and generally declines to consider purchasing and installing new fixtures. Usually his best way out is to purchase or to make portables. Here is his great opportunity to enjoy the usefulness and charm of artificial light. The householder can draw upon his (of course we mean "her") ingenuity, enthusiasm, and purse to the fullest extent in planning or in

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purchasing portables for he knows they will go with him when he moves.

There is the difficulty of the scarcity of outlets but this may be overcome to some extent by means of lamp-cord. A socket may be brought from the most accessible place to a point where it may be a distribution center for the portables in that vicinity. Furthermore, it is relatively much easier to install convenience-outlets in the walls or base-boards than in the ceiling for fixtures. Some time in the future, fixture-outlets will be prevalent and they will enable the householder to attach the lighting fixtures such as wall-brackets and ceiling-fixtures and to remove them as easily as he now does a portable. But with all these improvements still to come the portable will not cease to be a decorative and utilitarian combination for lighting which is the best way out for millions of householders.

Let us now take a trip to various representative rooms in the average home and view the possibilities of portable lamps.

The Dining-Room. From a utilitarian as well

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as a psychological viewpoint, the dining-table should be the predominantly illuminated area in the room. In many homes this is not the case but a careful study of this problem will supply conclusive proof of the truth of the preceding statement. Frankly the lighting of the dining-table can be accomplished more satisfactorily by a ceiling-fixture of proper design supported above the table. However, this does not mean that a portable lamp cannot satisfy the lighting requirements as already enunciated. Many householders have used candle portables usually incidental or accessory to the lighting from the ceiling-fixture. However, small portables similar to candle-sticks but employing electric lamps, can be depended upon entirely for illuminating the table. They can be connected to plugs under the edge of the table or less satisfactorily to the ceiling-fixture. Sometimes it will be found better to place the individual electrified candle-sticks between diners rather than in the center of the table. This often provides a better view of those across the table.

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In order to avoid glare the shades should be of the closed-top type and they should be fairly dense.

It is not out of the question to use a single low portable in the center of the dining-table or two or more when the table is long. These can be low enough to see over and beyond them without difficulty. About fourteen inches is the maximum height permissible if the diners are to see over them. For such a portable the light-source should be as high as the over-all height will permit and the shade should be dense. One may also consider the other extreme; that is, a portable high enough to see under and beyond the shade in order that the view of diners may be unobstructed. This amounts to placing the dome fixture which has hung from the ceiling, upon a pedestal in the center of the table. This is not the best solution but it is unique and when the shade is properly designed and supported at a height so that the light-sources are concealed it is not without possibilities.

A pair of small portables spanning the buffet adds a charming decorative note (Fig. 25).

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When the smallest lamps of regular voltage are used they are sometimes too bright. By connecting them in series the light is subdued to a very satisfactory value. A switch which will connect these either in "series" or in "par-

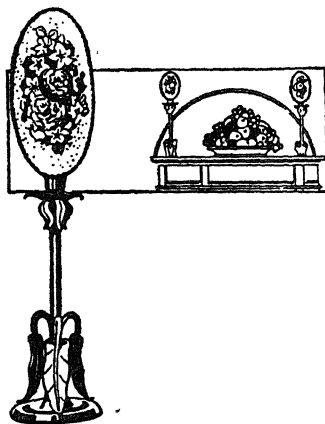


Fig. 25. Decorative portables for buffet.

allel" is a desirable accessory. Of course, these decorative portables may take a variety of forms. A candle-stick with several arms each surmounted by a small electric lamp and suitable shade is appropriate. Mica is popular at present and small torcheres of this character

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may be used. Other portables may be installed for both utility and beauty but the furnishing in the individual case will determine the type and the number of them.

The lighting in the breakfast-room may be accomplished by a small portable at one end of the table in the case of the "pullman" alcove or in the center of the table if the condition is similar to that in the dining-room.

The Living-Room. The setting in the living-room is not as definite as that in the dining-room. This is one reason why portable lamps afford an excellent solution to the lighting of this room. Portables may be rearranged with the furniture and they may cling to their particular office regardless of the change. The reading or so-called library-table may have its location changed but the portable which is meant for it may go with it. If the portable on this table (Fig. 26) is to provide light for reading it should possess a shade which emits a direct component of the proper spread in accordance with the principles discussed in Chapter II. Sometimes a pair of portables may be the best

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solution for a large table or a twin lamp, that is, a pair of shades on the same standard, may be desirable. In some cases the elliptical shade has been found satisfactory for this purpose.



Fig. 26. At the reading table.

Sometimes the davenport is spanned by portables on tables or on the floor.

For the general lighting of the living-room the portables emitting powerful upward components are satisfactory (Fig. 27). Few persons realize that this room may be very well

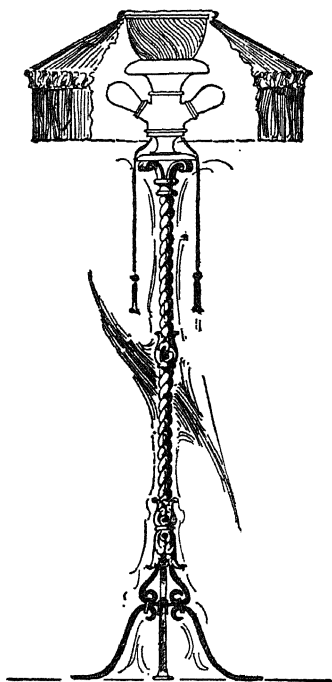


Fig. 27. A floor lamp providing both downward and upward components of light.

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illuminated to a high intensity by the system of indirect lighting by means of portables designed for this purpose. If the room is too large for one portable to supply sufficient indirect light two or more may be used. These may be table-lamps or floor-lamps. Inasmuch as they can be equipped with light-sources which give direct lighting the portable on the reading-table may be of this type. Another if needed may be a floor-lamp. These direct-indirect portables are able to introduce variety into lighting in a much better manner than is obtainable from ordinary fixtures. They afford a means of using light as an expressive medium. From a flood of light to the charming effect of subdued localized lighting is a range representing extreme moods. Light should be used to accentuate or even to create the mood of a room and it should be possible to vary it to suit the occasion. Portable lamps which are designed to give direct light as well as indirect, open to the householder some of the potentiality of light.

The mobility of portable lamps has already been mentioned. This characteristic which port-

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ables enjoy alone among lighting-fixtures or devices is one of the greatest factors in their consideration. Floor-lamps in the living-room afford lighting for reading or for other activities

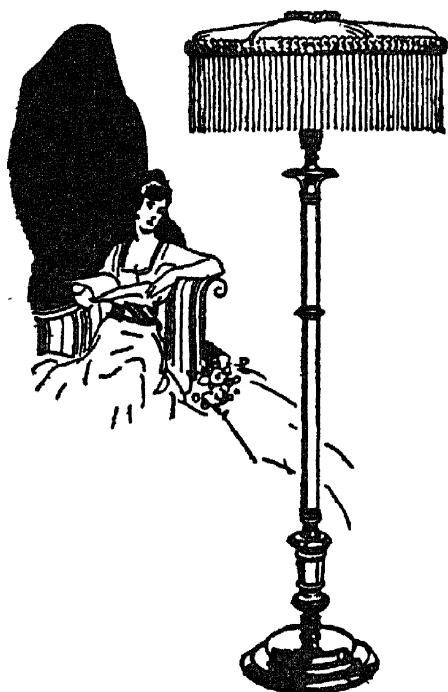


Fig. 28. An excellent portable for the reader.

and they do not require another article of furniture for their support as table-lamps do (Fig. 28). A chair may be placed underneath one of them so that reading or other visual operations can be pursued generally more satisfactorily than near a table-lamp.

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There are special floor-lamps for reading purposes which are quite satisfactory. A short one, about four feet tall, is convenient for this pur-

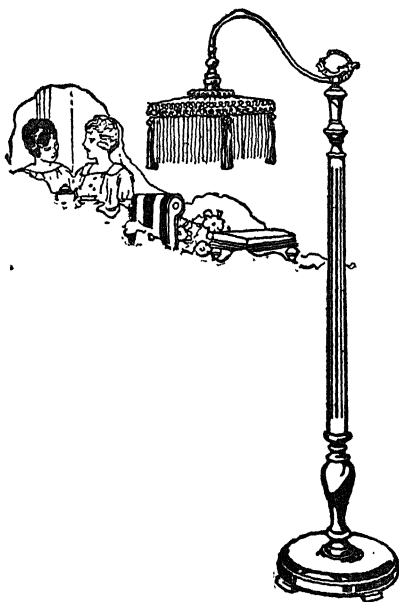


Fig. 29. A useful and ornamental bridge lamp.

pose. The dimensions of floor-lamps have been discussed in a previous chapter. Another type of floor-lamp which can be drawn close to a chair is the bridge or bracket portable (Fig. 29).

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A substantial pedestal supports an overhanging bracket from which the shade is hung. This projecting shade, which is often adjustable, makes it possible to have the shade and light-source close to the book in the case of reading.

If the piano is in the living-room the music can be lighted by means of a floor-lamp (Fig. 30), by means of a pair of slender portables on the piano, by means of a specially designed portable over the music and in other ways. If there is a writing-desk in the room a small portable is a satisfactory means of lighting.

The foregoing are the more specific lighting requirements of the living-room. A number of portables for these various purposes may be provided depending upon the size of the room and upon the furnishings. The number, size and character of the purely ornamental portables is a matter of taste. In a living-room 14 feet by 25 feet a dozen portables can be used. A pair of small ones may rest on the mantle and another one or a pair may be placed on a bookcase. Any small table may be completed as a decorative note by adding a portable. Various

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novelties may be used of the type discussed in another chapter. We could go on discussing details of this character but after all the mat-

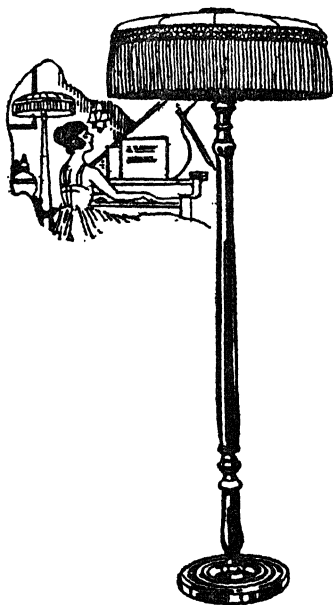


Fig. 30. An excellent portable for the piano.

ter rests with the taste and desire of the householder.

Ceiling- and wall-fixtures need not be abandoned entirely. The wall-brackets with small

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lamps and dense shields or shades are ornamental. The ceiling-fixtures can provide general lighting for those occasions and activities requiring it. However, portable lamps of sufficient number and of proper design can meet all the lighting requirements in this room. In general, they will be more satisfactory than any other system of lighting. The lighting effects which they produce are pleasingly asymmetrical. They provide localized lighting wherever desired and the subdued lighting so conducive to restfulness and comfort. By choosing and carefully locating portables designed for providing an indirect component of light, general lighting is obtained. Open-top shades here and there are often just the final touches in obtaining the best and most flexible lighting.

The Sun-Room. The lighting requirements in this room are not materially different from those in the so-called living-room but the furnishings are generally characteristically different. For example, wicker lamps are often appropriate in these settings and owing to the nature of the room a more theatrical touch in

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lighting is not always out of place. The direct-indirect portable can be used to advantage and the indirect component might be distinctly colored. A colder light such as is obtained from the so-called tungsten "daylight" lamps is sometimes suitable. Even stronger contrasts can be used. Light-sources concealed in vases or urns and placed on shelves or furniture can be employed to obtain novel effects. Here again the number of portables will depend upon the size and furnishing of the room.

The Den or Study. If there is a desk or a writing-table in the room its lighting can be very well accomplished by means of a portable lamp. There are various purely utilitarian desk-lamps available but in the home a decorative one is usually more desirable. If the portable is on the table it should be toward the back and to the left of the person seated. If the arrangement of furniture permits its use, a floor-lamp will be found to be highly satisfactory for lighting the writing-table. In fact, it is the best means that the author has found. Such a portable is best placed at the left of the person

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seated at the table. Of course, these specifications are for a right-handed person.

It is a mistake to concentrate practically all the light downward on the table for this causes quite a large contrast in brightness between the book or writing paper and the surroundings. The portable should permit an appreciable amount of light to find its way to the ceiling and walls. If a closed-top shade is used for the portable at the writing table some general lighting should be obtained from other light-sources if eye-comfort is to be assured. The den brings to our mind a dimly lighted room with rather dark walls and furnishings. With well shaded light-sources this subdued effect is accentuated. This lighting is quite satisfactory for conversational purposes but when we call upon the eyes to do work such as is involved in reading or writing other considerations enter. The chief of these is contrast in brightness. We must not have the contrast too great if we are to avoid eye-strain. The insurance against this discomfort is found in illuminating the surroundings by some general lighting.

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In this room there is no better way of introducing charm than by means of portables. Various unique portables or artistic novelties are available or can be made which are thor-

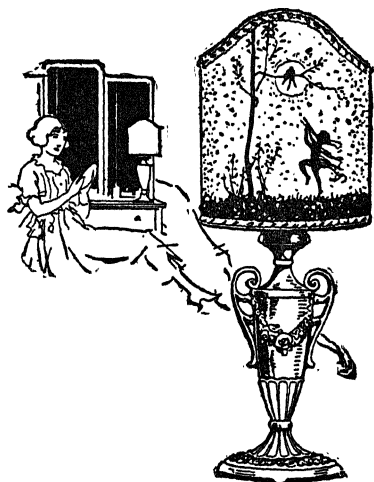


Fig. 31. For the dressing-table.

oughly suitable for the den or study. In general the color and materials of the portables for this room should be dignified and restful.

The Boudoir. Let us first consider two articles of furnishing which we will designate as the

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dresser and the dressing-table and we will assume that each is equipped with a mirror. Wall-brackets or brackets fastened at the sides of the mirror satisfy the lighting requirements in both these cases. However, portables if properly designed are excellent (Fig. 31). They can be colored and ornamented to harmonize with the daintiness of such a room. Here lighter tints and patterns in the material of the shades are appropriate and painted pedestals are suitable. But if portables are to be used they should be so designed that they are of the correct height and the shades are of proper density and shape to produce the proper lighting effect. In other words, these portables must be useful as well as ornamental (Fig. 32).

In the case of the dresser a person stands before it. Therefore, the height of the light-source or center of the shade above the floor should be slightly greater than the height of the person standing. In Fig. 33 a diagram shows the proper height of a portable on a dresser. This is a front elevation showing two portables. Of course, two portables, one on each side of the

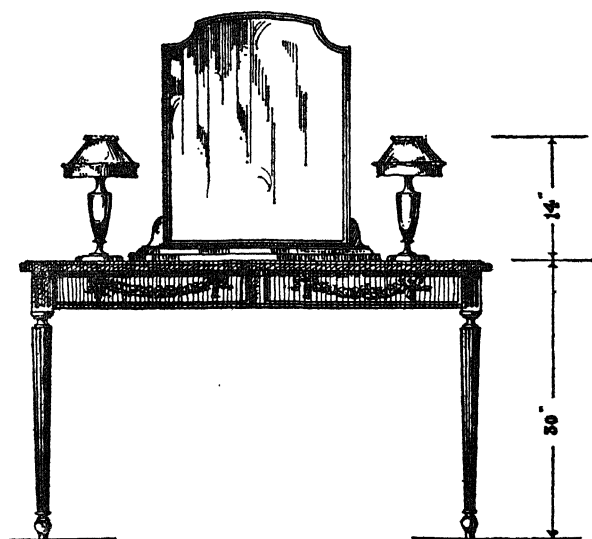


Fig. 32. Showing the short portable which is best for the dressing-table where the user is seated.

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dresser, is the ideal arrangement. The top of the dresser is about 42 inches above the floor. This makes it necessary to have dresser portables about 24 inches in height. In fact, it is desirable to have them higher rather than lower. These portables should be slender and inasmuch as they are exceptionally tall their construction is a matter of moment. A satisfactory pedestal can be made of metal tubing covered with velvet or wrapped with cord. This construction is convenient for wiring the pedestal. The shade should not be too dense because in this case enough light must be transmitted by it to illuminate the face. It should have an open bottom and open top in order to provide light for the top of the dresser and to permit some light to fall on the adjacent walls and ceiling. The cylindrical shade as shown is quite suitable for the slender portables for the dresser, but shades with slightly inclined sides or with panels are quite satisfactory.

The portables for the dressing-table (Fig. 32) are quite different in design from those for the dresser. The dressing-table is about 30 inches

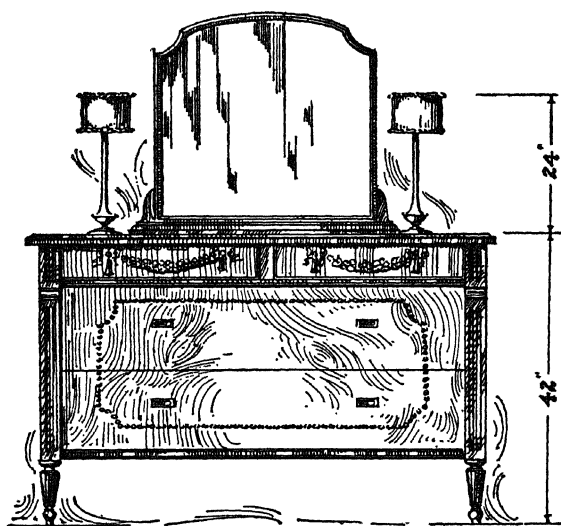


Fig. 33. Showing tall slender portable of proper height for the dresser at which the user stands.

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in height and inasmuch as a person is seated at it part of the time at least, the portables should be only about 14 inches in height. The shades should have a completely closed top and should be quite shallow. Furthermore, as in the case of the dresser portables the shades should not be too dense; they should transmit sufficient light to illuminate the face satisfactorily. Although it is usually best to have the shade-holder fixed permanently to the pedestal, here is a case where it is advantageous to have the shade supported by the lamp bulb. It is thus possible to tilt the shade so that direct light from the lamp may illuminate the person when a high intensity of illumination is desired. A careful consideration of the principles involved will aid the householder to select or to design the proper portables for these specific purposes.

Other portables in the boudoir will depend upon the furnishings, size of the room and the other requirements. A decorative reading-lamp or a small ornamental portable will supply lighting for other purposes. There are also opportunities to utilize some of the novelties described

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in another chapter. For example, the skirts of a doll may subdue the intensity of an electric lamp so that it can be used as a night-light.

The Bedroom. In those cases where dressing and sleeping rooms are combined, the discussion pertaining to the lighting of the boudoir applies directly. Some persons enjoy the luxury of reading in bed. For this purpose a bracket-lamp can be attached to the head of the bed and this may be as decorative as desired. From an artistic standpoint a portable on a small table may be more satisfactory. However, a small floor-lamp with a shallow shade has been found to be of advantage. It is easily moved about and can be brought close to the bed. Such a portable about 50 inches high with an extremely shallow shade, is quite suitable. Here the painted pedestal with delicate ornament and a patterned silk shade is very pleasing in appearance and it harmonizes with the furnishings in many bedrooms. Various novelties or small decorative portables will often find a place in this room.

Other Rooms. The foregoing discussions

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cover fairly well the lighting requirements and possibilities of portables in representative rooms in the average home. Owing to the individuality of homes various lighting problems are found. However, the principles and possibilities of portables apply to the unusual places as well as to the representative rooms. We could go on multiplying details but perhaps to little further advantage. We can only aid the user of portables to a certain extent. The final touches must spring from the enthusiasm, the ingenuity, and the taste of the householder or other user of artificial light.

However, a few more suggestions may be of interest. If there is a sewing-room a portable using a tungsten "daylight" lamp will be found satisfactory. This may be a table-lamp but sometimes a floor-lamp will be found more satisfactory because it may be placed close to the sewing machine and for handwork the worker may be seated practically underneath the lamp.

Vestibules are usually lighted by means of a ceiling-fixture but if space permits a portable

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may prove suitable. If there is a mirror and a console beneath it, a pair of small decorative portables provides a charming greeting to the caller. In the reception hall there are similar possibilities. Portable lamps go a long way toward making these places appear furnished.

In many homes the upper hall appears barren. A portable lamp on a small table or even a floor-lamp will do much toward relieving the barrenness. This is also true of the stairway landing if it is large enough.

Thus as we pass through a home we find many opportunities for using portables. We should not consider their use limited to those places where light is needed from the viewpoint of pure utility. We should go further and take advantage of the charm that light possesses beyond that of mere color in ornament. And then we should complete our capitulation by admitting that primary artificial light has just as much right to be an ornament or a decorative element as the color in a vase. A small portable may be a decorative object but when lighted it is something more. It is now enlivened; it

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becomes a vital spark amid otherwise dead ornament.

We should not consider portables, or lighting fixtures in general, with disfavor because they consume electricity which we must pay for from time to time. Pictures on the wall do not cease to cost us something after their initial cost is forgotten. We never can escape the running cost of interest on the investment and of depreciation. The meager cost of artificial light is not much to add to depreciation and interest on the investment considering what usefulness and what charm it provides at an average cost per residence of about two dollars per month for electricity.

The portable lamp is one of the most helpful allies for the householder who wishes to bring convenience, restfulness, comfort and charm indoors, or in other words, to make a house a home.

CHAPTER VI

NOVELTIES

THERE are numberless possibilities in portable lamps which may be better classed as novelties. Most of these are scarcely recognized as portable lamps but in reality they are for they are just as portable as any electric lamp can be. The shopper will find many of these novelties in the electric and gift shops but a creative individual will soon discover that many more still remain undiscovered or at least unmade. Some of these novelties combine the usefulness and decorative charm of light with some article which is useful in some other manner. A mere verbal description of these novelties is fraught with danger, for words often fail to bring to mind the charming artistic result, but merely leave the reader a mental image of incongruity. However, we will assume that risk although we

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will also describe some possibilities which will enable one to make or to have made some great improvements in decorative portables.

Just where the dividing line lies between portables which are novelties and those which are not is indefinite, but that need not worry us here. Horn windows in lanterns were once common but now such a use is unusual and novel. Conversely artistic mica cylinders were at one time seldom seen in modern electric portables but today they are quite common. Pedestals surmounted by mica cylinders, hexagonal lanterns, or a cluster of electric "candles" are not very generally used but they are not novelties to those who are familiar with them.

The few novel portables or combinations which may be mentioned here will only serve to illustrate and to suggest possibilities. Passing words may not do them justice but the artistic hand and eye can satisfy in this respect. Many novel portables combine a small shade and a light-source with some article having a distinctly different use. A small workbasket may form the base of a decorative portable consisting of

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a small electric lamp and an artistic silk shade. A book-end may not only support books, but also a shade and a light-source as well. A serving or refreshment tray may be designed so as to support a shade and light-source. Some incense burners are equipped with small electric lamps which add a charming tiny spark of ornamental light. A desk portable may have compartments for writing materials. There are combination lamps and mirrors varying from dainty boudoir articles to the strictly utilitarian ones. Charming vases for holding natural or artificial flowers are surmounted by pretty shades enclosing electric lamps. These and many other combinations can be purchased or made and when properly used they add the charm of light here and there throughout the home.

Then there are numberless novel portables which may serve as night-lights or as bits of lighted ornament. Decorative urns of glass or of marble are found completely equipped with electric lamps and connecting wire. Charming miniature sculptures are surmounted by ex-

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quisite shades of silk, brocade and gold lace. Cylinders of parchment, mica, gathered silk and painted fabric contain small electric lamps. These also may serve as night-lights as well as ornaments. Colonial dolls are used as lighted ornaments and night-lights. An electric incandescent lamp is concealed under the skirt and the light is filtered through the fabric. The construction can be such as to make it possible to remove the doll when more light is desired temporarily. A small shade of woven fabric is fastened to a wire frame which has a wire handle or a clamp so that it may be fastened to a chair or to the bed. Flower-baskets and flower-trays conceal electric lamps and are novel lighted ornaments. Exceptional pieces of glass and even glass vases may be illuminated by means of concealed lamps. Novelties of this character may be found if one will search for them and many are easily made.

In visiting the antique shops and others one will discover many interesting objects which can play a part in lighting the home. Herein lies one of the greatest joys in lighting. It is

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hoped that this little volume will start some readers at least on the never-ending quest.

The charm of mystery can be injected into lighting by concealing lamps in vases, jardinières and numberless ornaments which may lend themselves to this form of lighting. The results are not merely incidental or insignificant for they can be of such magnitude as to contribute largely to the lighting of a room. Places are readily found for such ornaments and no one need suspect that they conceal electric lamps. Sometimes the concealed light-source produces a very beautiful effect as the light is filtered through a dense marble piece or a semi-transparent vase. Unique indirect lighting may be obtained by means of several urns or vases placed in different parts of a room on bookcases and on other articles of furniture. This is a very excellent manner of lighting various nooks and of providing a slight amount of general lighting to supplement the subdued lighting from ordinary portables.

Many novel shades for portables can be made of paper besides those more permanent and

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costly ones of parchment, vellum and imitations. Wall-paper and crepe paper are cheap but should only be used when durability is not a matter of concern. These novelties usually border on the frivolous and one of their best uses is for temporary decorations for parties. For the smaller portables wire frames are not necessary. Cardboard may be used for stiffening and the decorations may consist of cutouts pasted on the paper. In many cases no shellac, varnish, or painted decoration is necessary. Unique inexpensive portables can be made by means of drawing paper tinted with water-colors. A cylinder can be supported on a simple pedestal, or from an arm projecting from one or two uprights. These are easily made and are of considerable decorative value. Many suggestions will occur to one who gives the matter a little thought.

One of the greatest difficulties which we encounter in electrifying certain antiques and novelties is due to the fact that an electric filament lamp of the smallest wattage of the normal voltage found in the home often provides too

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much light. Furthermore, the electric lamp is often physically too large for the space available. For example, two charming antique Chinese temple-lamps were in the author's possession and it was desired to light them electrically. Originally miniature candles were burned in them. The lamps were of bronze and only about a foot in height. The space available for the light-source was much too small for even a candelabra lamp of the ordinary line voltage; furthermore, a ten-watt lamp—the smallest that can be purchased—gives a great deal more light than is desirable for these temple-lamps.

The problem was solved in a very simple manner. Teakwood bases were made to fit the lamp bases which were hollow and sufficiently large to permit the installation of a very small transformer. There is available in the market a night-light which consists of a transformer and a bayonet socket for a six-volt miniature lamp of the smallest size used on automobiles. This apparatus screws into an ordinary lamp-socket and steps down the voltage to six volts. The bases of the Chinese lamps were

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too small to admit this complete night-light outfit so the small transformers were removed from two of them. These were installed on the teakwood bases and the temple-lamps were placed over them. A small bayonet socket was fastened at the neck of the lamp and wires were run downward to the transformer. The proper terminals of the latter were connected to a lamp cord—which could be plugged into the outlet on the mantel above the fire-place. Electric lamps similar to those used in the tail-light of an automobile were installed in the sockets. Now these Chinese temple lamps are electrified. The small amount of light from the miniature lamps which are concealed deep in the lamps gives just the desired amount of light. The lamps were originally just lifeless antiques to be admired only as such. Now they are live ornaments giving light as they should. The pair give forth their charming subdued light nightly at a cost of about one-tenth of a cent each evening.

This led to many other applications of miniature lamps. The night-light outfit has been installed in a number of objects and has been con-

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nected directly to the lamp-cord in other cases. This outfit contains the smallest transformer available so that a number of them have been dismantled in order to obtain the transformers. Several wood pedestals or bases have been turned in a lathe in such a manner as to be suitable for placing objects upon them. These bases have each been provided with a cavity in the lower side for concealing one of these small transformers. In this manner low-voltage is obtained for connecting miniature lamps.

A pair of very small candle-sticks can be equipped with miniature lamps and they can be placed upon the pedestals containing the transformers. Various other uses have been found for miniature lamps. An ordinary bell-ringing transformer can be used for the purpose and there are various so-called toy transformers available. These step down the regular voltage to two, four, six, eight and twelve volts. The foregoing description may lead one to believe that the work is too technical for the uninitiated to attempt but in this mechanical age most boys and men can do it successfully. We should not

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overlook the many possibilities of miniature lamps.

It should be noted that the transformer can be used, in the manner described in the foregoing paragraphs, only with alternating current. Fortunately this is generally supplied to residences. Where only direct current is available a suitable resistance can be used in series with the low-voltage lamps but this method is not as satisfactory as the use of a transformer.

CHAPTER VII

LIGHT-SOURCES

THIS little volume has been written largely with electric incandescent filament lamps in mind because the possibilities of portables are much greater with these light-sources than with others. However, the principles of design and of usage are quite the same for all light-sources, bearing in mind, of course, the inherent limitations of the light-sources themselves. Obviously, open flames are limited very much by fire hazard but one need not forego some of the enjoyment of portables of various designs just because electricity may not be available. However, the limitations of open flames should be obvious and in order to avoid repetition only electric incandescent lamps will be discussed as light-sources for portables. The light-source is an aspect of portables which is quite important and space is given to a brief discussion of it because

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observation indicates that the user of light is not adequately familiar with the kinds, sizes and other characteristics of electric incandescent lamps.

Electric incandescent lamps as far as the householder is concerned may be divided into two general classes which may be popularly termed tungsten "gas-filled" and "vacuum" lamps respectively. The so-called gas-filled lamp has a coiled tungsten filament and the bulb is filled with nitrogen and argon gas. The filament owing to the coiling is confined in a much smaller space than the straight filament of the vacuum lamp. Owing to the conduction of heat through the gas to the bulb, the gas-filled lamp-bulb is considerably hotter than the bulb of the vacuum lamp. However, it is not so hot as to damage the lamp-shade even though it is made of delicate silk, if the bulb is as much as two inches away from the shade. This is particularly true of the 50, 75 and 100-watt lamps. The bulb of the tungsten vacuum lamp of smaller sizes can be in contact with a shade without causing deterioration but it is best to separate

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it from the shade by a distance of an inch at least.

The tungsten gas-filled lamp may be obtained all-frosted and some of these are now made of diffusing or white glass and also with a more diffusing coating than the so-called frosting. Larger lamps are also supplied with this coating. These diffusing lamps generally produce a better effect than the clear-bulb lamps because the harshness of shadows is much subdued. The user of electric lamps in the home will do well to purchase the diffusing bulbs, either of white glass, with white coating, or with the sand-blasted or etched frosting.

The tungsten vacuum lamps which have been most popular are those of 10, 15, 25, 40, 50 and 60 watts. Often when a lamp is desired of greater size than 40-watts, the gas-filled lamp should be purchased. The vacuum lamps may be obtained with round or pear-shaped bulbs. Sometimes where the available space is small a round-bulb lamp will be more suitable than the pear-shaped. The regular lamps have the so-called "Edison" or standard base. The next

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smaller electric lamp is the candelabra and it is found useful for the smaller portables. This has a screw-base which is smaller than the standard "Edison" base.

It has already been stated that, where feasible, a portable should be designed for a single electric lamp. The effect is more symmetrical and the portable is simpler and usually more satisfactory than in the case of one with several light-sources. When a single electric lamp is used in the large portables its wattage should be from 50 to 200 depending upon the size of the portable and its use. A 75-watt lamp will provide enough light for reading but in the case of the deep open-top shades a 100-watt frosted lamp will be found more desirable. The lamp can be readily changed so it is well to have the fitting designed to admit the use of the 100-watt lamp. Incidentally the 150-watt bulb at the present time is the same size as the 100-watt bulb. Instead of trusting to dimensions it is best to use the actual lamp in designing or in purchasing a portable.

At the present time relatively few portables

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of the larger sizes are being constructed for the use of a single lamp; however, even in the multi-socket portables of the larger sizes it is often found advantageous to use the 50-watt gas-filled lamp with a diffusing bulb.

The electric incandescent lamps considered in the preceding paragraphs are those of the "normal" voltage supplied to residences. The residential voltage varies somewhat with the locality, the range being chiefly between 105 to 125 volts with the most common value at 115 volts. For the low voltages obtained with small transformers, miniature electric lamps are available chiefly in the range from 2 to 12 volts. The smallest electric lamps have miniature screw bases and the next smallest are the lamps used in automobile tail-lights. The latter have bayonet bases and when their use is contemplated the bayonet socket must be installed. In designing small portables or in electrifying small objects such as some candle-sticks, the type of lamp and its socket should be considered together.

There is quite a range of tint represented in

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regular electric incandescent lamps. Although their light at night is considered to be quite whitish, as a matter of fact it is very yellow compared with daylight. The light from the vacuum electric incandescent lamp is yellower than that from the gas-filled lamp and the light from the latter is yellower than the so-called "daylight" lamp. The daylight lamp is advantageous not only in the kitchen and the laundry but may be used in portables for reading, for sewing, and in cases where a "cold" tint is suitable.

Almost universally we like the "warm" tint of the light from the candle-flame or from the fire-place. For this reason modern electric lamps tinted to emit light of the color of the candle-flame are quite popular with the householder who has an artistic sense for color. Such electric lamps are available and if one will be persistent enough to search for them he will be rewarded with lighting which is extremely charming in its warmth of color.

If one wishes to go further in introducing the charm of color into lighting, it is possible to

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obtain lamps of other colors from the leading dealers. Although the purer colors have their place in lighting they are more suitable for the theatrical or spectacular touch than for general lighting. We like pure color momentarily rather than continuously. We like a brilliant patch of color in a vase or other small object but do not use this vivid color over large areas. This small patch of pure color is seen momentarily in our surroundings whereas there would be no escape from large areas of pure color such as wall coverings. The colors to live with are subdued shades and tints. The brilliantly colored objects are merely notes in a more restful color-scheme.

Therefore we should use lights of pure colors cautiously and sparingly. When we do use them they must be considered as secondary lighting effects or as live sparks of ornament. Light of fairly pure color can be used successfully for the indirect component of the direct-indirect portables. Thus a secondary general lighting of a low intensity and of a desired color may be superposed upon the primary localized light-

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ing obtained directly from the portables. Colored light can be used safely and successfully in small ornamental or novel portables.

In using colored light we must not forget that the light will illuminate familiar objects, dresses and faces. For this reason it must be more carefully considered than color as used in the usual manner. Warm yellow, orange and rose are satisfactory colors for lighting but, of course, all colors have applications.

There are many colored lacquers which can be successfully used on tungsten vacuum lamps but most of these deteriorate rapidly when used on the hotter bulbs of the gas-filled lamps. Most progressive dealers are able to color lamps and it is likely that such lamps will be generally displayed for sale in the coming years. At the present time permanent tints can be applied superficially to the gas-filled lamps and such colorings are beginning to reach the market.

It is not difficult for the householder to color electric lamps for most of his purposes when only tints are desired. The more transparent oil paints can be used on the bulb. Dry pig-

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ments mixed with shellac are satisfactory. Enamels and ordinary paints when applied thinly enough will supply the need. These should be allowed to dry fairly well before the lamp is lighted in order to prevent blistering. The pigments used by the layman are not likely to be very transparent and therefore will absorb considerable light, but for the few effects that may be desired they will be fairly satisfactory.

Many aniline dyes can be used with collodion or with "celluloid" lacquers. If a sufficient quantity of the liquid is available the lamp may be dipped into it. This insures a better result than is obtained by using a brush. The celluloid used in automobile curtains can be dissolved in denatured alcohol, or old photographic films from which the emulsion has been removed will supply the celluloid. The resulting lacquer may be colored with cheap aniline dyes.

Sometimes it is better to color a cylinder or other enclosure for a lamp. The coloring will not deteriorate as rapidly in this case as when it is on the lamp bulb. Photographic plates and films can be fixed, washed, dried and then dyed.

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The gelatine takes the dye very well and these make excellent filters. A photographic film from which the emulsion has been removed may be colored with a celluloid lacquer. It may be bent into various forms as desired. Of course it should be remembered that celluloid is inflammable; however, such coatings on lamps do not take fire. Gelatine sheets can be dyed and used with success but they are not permanent. Such colored sheets are sold by dealers in theatrical supplies. Mica in sheets or in cylinders is very satisfactory as a filter when colored.

Colored silk may be used to enclose the light-source or it may be stretched across the openings in the shade. The silk fibers are quite transparent so that beautiful tints are obtained in this manner. Colored papers and other material may be placed around the lamp bulbs if only a temporary effect is desired.

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